The Accomplishment and Change of Organizational Practices and Routines.

Three Papers from a Practice-Theoretical Perspective

Dissertation
submitted to the Faculty of Economics,
Business Administration and Information Technology
of the University of Zurich

to obtain the degree of
Doctor of Philosophy
in Business Administration

presented by

Katharina Dittrich
from Germany

approved in October 2014 at the request of
Prof. David Seidl, PhD
Prof. Dr. Andreas Georg Scherer

The Faculty of Economics, Business Administration and Information Technology of the University of Zurich hereby authorizes the printing of this dissertation, without indicating an opinion of the views expressed in the work.

Zurich, 22.10.2014

Chairman of the Doctoral Board: Prof. Dr. Josef Zweimüller

Content

List of Tables

List of Figures

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor Prof. David Seidl, PhD who always supported me in my research, introduced me to the academic community and showed me what it means to 'do research'. I also appreciate his emphasis on the importance of teaching and his efforts to build a strong team at his chair. I would like to thank my second supervisor Prof. Dr. Andreas Georg Scherer for providing important advice and guidance during my thesis and for insightful discussions in the philosophy of science. Finally, a special thanks goes to the management team of CellCo (psydonym) for providing me access to collect data for my thesis and for welcoming me into their team. I truly enjoyed my experience at CellCo and it will stay with me during my future academic thinking.

During my research, I benefited greatly from the interaction with many academics. In particular, I would like to thank Prof. Richard Whittington for allowing me to experience the academic spirit of the University of Oxford and for providing important feedback on my research. I am greatly indebted to Prof. Martha Feldman who has always been a source of inspiration and a role model for conducting qualitative research. I also thank Prof. Dvora Yanow for initiating me in the sensibilities of doing ethnographic work, and Prof. Karen Golden-Biddle for sharpening my skills in writing compelling and convincing texts. My appreciation also goes to Associate Prof. Jennifer Howard-Grenville, Prof. Paula Jarzabkowski, Prof. Ann Langley, Prof. William McKinley, Prof. Davide Nicolini, Prof. Hari Tsoukas and Prof. Eero Vaara for their intellectual influence and constructive feedback during various academic conferences, workshops and seminars.

My daily life as a researcher was made so much more enjoyable by my colleagues at the chair: Dr. Stéphane Guérard, Andrea Huber, Felix Eugen Langenmayr, Shenghui Ma, Karen Ariane Schweg, Violetta Splitter and Felix Werle. Thank you for the great team spirit and lasting memories of our magic mountain trips. I would like to thank Violetta Splitter in particular for sharing the ups and downs of the thesis process and for being a great partner to teach with. In addition I thank the colleagues at the chair of Prof. Scherer for fun paper parties, fruitful Brown Bag Lunch discussions and congenial company in attending conferences: Elisabeth Does, Dr. Patrick Haack, Emilio Marti, Dr. Dennis Schoeneborn, Hannah Trittin and Dr. Christian Vögtlin.

This dissertation would not have been possible without the support and encouragement of my family and friends. Thank you for all your patience and understanding. In particular, I would like to thank Daniel Quinten for providing emotional support and sharing my joys and anxieties in having conducted this research.

I extend my special gratitude to the Swiss National Foundation for providing the funding to conduct my research and to the Faculty of Economics, Business Administration and Information Technology at the University of Zurich for providing financial support to attend several academic conferences.

1 Introduction

1.1 Overview

In this dissertation I apply a practice-theoretical perspective to study organizations. Practice-based approaches have gained increasing traction in recent years, both in organization studies (Miettinen, Samra-Fredericks, & Yanow, 2010) and in the social sciences at large (Schatzki, Knorr-Cetina, & Savigny, 2001). This turn towards practice is driven by the difficulties of traditional approaches to overcome problematic dualisms—such as the distinction between agency and structure, micro and macro, individual and institutional—that have produced long-standing debates in organization studies but have remained unsolved (Feldman & Orlikowski, 2011; Nicolini, 2013). Social practice theories emerged as a result of the "critique and transformation of social constructivist theories" (Rasche & Chia, 2009: 715). In particular, leading practice theorists like Bourdieu, Foucault, Goffman and Taylor were concerned with overcoming the mentalistic heritage of social constructivist theories and instead drew attention to the materiality and local situatedness of social practices. Practice-based approaches not only offer ways to capture "the complex, dynamic, distributed, mobile, transient [...and] emergent phenomena" (Feldman & Orlikowski, 2011: 1240) of contemporary organizing, but also a theoretical apparatus that allows dissolving the irreducible dualisms of other traditions and to transcend the division between micro-, meso- and macro-levels of analysis (Miettinen et al., 2010).

The term 'practice' can be used in at least three different ways (Schatzki, 1996: 89): First, in everyday non-academic conversations, 'practicing' refers to learning or improving a certain ability to do something, such as riding a bike. Second, in the philosophical tradition, the term 'practice' (often also referred to as 'praxis') is used to distinguish theory from practice, i.e., the performing of an action or systems of actions without theoretical reflection or contemplation (Scherer & Steinmann, 1999), the actual 'do-ing' (Schatzki, 1996: 90) and activity (Whittington, 2006: 615). Third, in the practice-theoretical perspective, the term 'practice' is also used to refer to the *routinized* and *patterned* activities of actors (Rasche & Chia, 2009; Schatzki et al., 2001). In this third sense, 'practice' denotes something that guides activity, not activity per se (Whittington, 2006). Practices can be defined as "a routinized type of behavior which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the

form of understanding, [and] know-how" (Reckwitz, 2002: 249). Examples include cooking practices, teaching practices, farming practices or voting practices (Schatzki, 1996). In practice theory, the second and the third use of the term 'practice' play a central role. The actual do-ing, the activity and action instantiates, maintains and changes the practice.

From a practice-theoretical perspective, "an organization, like any social phenomenon, is a bundle of practices and material arrangements" (Schatzki, 2006: 1863). Hence, the basic unit of analysis for studying organizational phenomena is not individual actors, groups or the organization but practices (Nicolini, 2013). Viewed through a practice lens, life in organizations is an "ongoing production and thus emerges through people's recurrent actions" (Feldman & Orlikowski, 2011: 1240). Practice-based approaches are fundamentally processual and relational, rejecting dualisms (e.g., the conceptual opposition of mind and body) and embracing dualities as a way of theorizing, that is phenomena always exist in relation to each other and constantly produce and reproduce each other in a process of mutual constitution (Feldman & Orlikowski, 2011). Thus, a practice perspective emphasizes that "it is through the situated and recurrent nature of everyday activity that structural consequences are produced and become reinforced or changed over time" (Orlikowski, 2010: 25).

Consequently, practice-based approaches have allowed scholars to re-conceptualize important organizational phenomena, e.g., from knowledge as something that organizational members possess to something they do (Cook & Brown, 1999; Gherardi, 2000), from technology as fixed, independent entities to technologies-in-use (Orlikowski, 1992, 2000), from strategy to strategizing (Jarzabkowski, Balogun, & Seidl, 2007; Whittington, 2006) or from organizational routines as stable, mindless entities to routines as flexible, effortful accomplishments (Feldman & Pentland, 2003). Similar shifts in theorizing have occurred in other disciplines in the social sciences, such as gender studies (e.g., Butler, 1990), science and technology studies (e.g., Knorr-Cetina, 1981; Pickering, 1992) or anthropology (e.g., Ortner, 1984). As the interest in practice is rooted in a variety of different traditions and theoretical approaches, "there is no unified practice approach" (Schatzki et al., 2001: 2). Rather, "practice theories constitute [...] a broad family of theoretical approaches connected by a web of historical and conceptual similarities" (Nicolini, 2013: 1).

Various scholars have recognized that researchers can engage the practice perspective in three different modes (Corradi, Gherardi, & Verzelloni, 2010; Feldman & Orlikowski, 2011; Orlikowski, 2010). The first mode emphasizes "practice as a *phenomenon*" (Orlikowski, 2010: 23), taking it as "an empirical object" (Corradi et al., 2010: 268) and *describing* people's everyday activities of organizing. In this mode, researchers try to get

closer to practice and tend to engage in in-depth field investigations and ethnographies to understand how practitioners experience their work. The second mode advocates "practice as a *perspective*" (Orlikowski, 2010: 25) and "as a way of seeing" (Corradi et al., 2010: 268), focusing on articulating the theoretical relationships that *explain* the dynamics of everyday activities. The third mode highlights "practice as a *philosophy*" (Orlikowski, 2010: 27) and foregrounds the ontological commitment to the primacy of practice in social life. This mode entails a *shift* from ontological separation, for example between humans and technologies, *to ontological entanglement*, i.e., that there are no "independently existing objects with inherent characteristics" (Barad, 2003: 816).

This dissertation has been conducted in the second mode, taking the analytical power of practice theories to explain the underlying mechanisms of particular organizational phenomena. This implies that all three papers in this thesis also take as objects of investigation particular practice phenomena (the first mode). As this thesis is based primarily on the choice of the particular perspective of practice theory, these empirical phenomena could also be addressed from other theoretical perspectives and where appropriate these links have been made explicit. The practice ontology, that is "the belief that many social and organizational phenomena occur within, and are aspects or components, of the field of practices" (Nicolini, 2013: 14), is implicit in the theorizing, but not the main point of the three papers (see Feldman, 2004 for an ontological shift in understanding resources and Orlikowski, 2007 for an ontological shift in understanding technology at work).

Against this backdrop, this dissertation applies the practice-theoretical perspective to study two particular types of organizational practices, that is organizational routines (first and second paper) and meetings (third paper). The first two papers of this dissertation are based on a one-year ethnographic study at a start-up company, and the third paper is based on a literature review of research on meetings. The aim of this dissertation is to articulate specific theoretical relationships that explain how particular practices—that is, organizational routines and meetings—are accomplished and changed.

Ethnography lends itself particularly well to study and theorize how organizational practices are accomplished and changed because it allows the researcher to immerse him- or herself in a particular setting and to experience how situated actors 'live' in and experience organizations (Evered & Louis, 1981; Yanow, 2012). Central to an ethnographic inquiry is a concern with understanding organizations "from the native's point of view" (Geertz, 1983: 55). Thus ethnographic methods encompass a range of "'tools' of observing (with whatever degree of participation), conversing (including formal interviewing) and the close reading of

documentary sources" (Ybema, Yanow, Wels, & Kamsteeg, 2009: 6). Using these different methods over an extended period of time allows ethnographers to render finely grained, detailed accounts of organizational life and "enables theorizing through comparative analysis, whether comparing within-in case things and acts or across cases" (Yanow, 2012: 36).

The particular organization that I studied for this dissertation is CellCo (pseudonym), a start-up company in the pharmaceutical sector. CellCo was founded as a university spin-off in 2009 with the primary aim of marketing a patented technology for producing cell tissues for pharmaceutical companies. When I entered the field in February 2011, CellCo had 18 employees and its management team consisted of the three founders and a quality manager. At this point, CellCo was ramping up its operations and thus provided an ideal setting for studying how organizational practices are accomplished and changed: CellCo's customers in the pharmaceutical industry placed high demands on quality, reliability and stability (Anand, Gray, & Siemsen, 2012), but at the same time CellCo had strong ambitions to grow and thus constantly adapted its practices.

I spent twelve months at CellCo, collecting data primarily through non-participant observation, audio-recordings, interviews and documents. On average, I spent two to three full days per week at CellCo, observing employees' daily interactions and practices, participating in meetings and social activities and accompanying employees to supplier and customer meetings and to a trade fair. At the outset of my study, the primary concern—typical of ethnographic studies—was to build relationships in the field and to obtain access to the different areas of interest. My presence at CellCo was quickly accepted and, although I did not participate in work-related activities, I became part of the team. Over the course of twelve months, I assembled close to 1,000 pages of field notes, 3,000 pages of transcripts (reflecting 150 hours of meetings, interviews, and conversations) and approximately 8,000 internal documents.

In my ethnographic study, I focus on organizational routines as a particular type of organizational practice. Organizational routines, defined as "repetitive patterns of interdependent organizational actions" (Parmigiani & Howard-Grenville, 2011: 414), are fundamental to how organizations accomplish their work and thus have long been an important topic of research in organization studies (Cyert & March, 1963; March & Simon, 1958). From a practice-based perspective, routines are conceptualized as consisting of two recursively related aspects: on the one hand, an ostensive aspect, defined as "the abstract, generalized idea of the routine," and on the other hand, a performative aspect, defined as the "specific actions [taken] by specific people, in specific times and places" (Feldman &

Pentland, 2003: 101). The interaction between these two aspects constitutes an evolutionary mechanism of endogenous routine change because it constantly generates opportunities for variation and selective retention (Feldman & Pentland, 2003). As a distinct stream of research, the practice-based approach to organizational routines has become known as the 'theory of routine dynamics' because it unpacks the internal dynamics of routines that unfold in the interaction of the ostensive and performative aspect. Already in the course of my ethnographic study at CellCo, two facets of organizational routines that to date have not been recognized in the routines literature became particularly salient: the way actors talk in relation to routines, i.e., the way in which they use verbal communication, (focus of the first paper) and the role of resources in accomplishing and changing routines (focus of the second paper). As is typical of journal articles building on ethnographic studies, due to space constraints these two papers present only a small share of the data that I collected at CellCo. Yet the entire range of observations, recordings, interviews and documents were crucial in contextualizing and analyzing the specific aspects and performances of routines discussed in the two papers. The deep and highly contextual understanding gained through extended immersion in the field is particularly important for theorizing in ethnographic studies (Agar, 2010).

The third paper of this dissertation takes another organizational practice—the practice of meeting—as an object of inquiry. Meetings are a pervasive phenomenon in organizations and thus have been a topic of research in different academic disciplines that each have applied distinct theoretical approaches to investigate it. However, this wide spreading of research has impeded a comprehensive understanding of meetings as an organizational phenomenon. Thus the third paper develops a practice-theoretical framework to review and synthesize the existing literature on meetings. Most studies on meetings provide rich and detailed empirical accounts of meetings (e.g., Boden, 1994; Jarzabkowski & Seidl, 2008; Schwartzman, 1989), allowing my co-authors and me to understand how meetings are accomplished in everyday organizing and to theorize meetings as a practice with particular characteristics that set it apart from other organizational practices.

Each of the three papers of this dissertation foregrounds a particular aspect of organizational practices and thus offers a different answer to the overarching question of how practices are accomplished and changed. The first paper demonstrates how actors use talk in different ways to enact, maintain and change organizational routines. The second paper examines how actors accomplish routines by drawing on particular resources and engage in resourcing to change them. The third paper shows how in enacting the practice of meeting

actors can be oriented towards very different practical concerns that influence how meetings are accomplished. Together, the three papers demonstrate how a practice-theoretical perspective to study organizational phenomena allows researchers to unravel the underlying mechanisms of work in organizations and to grasp the complexity and dynamics of contemporary organizing. In the remainder of this chapter, I reflect on the underlying assumptions of the practice-theoretical perspective, summarize each of the three papers, delineate the major contributions of the dissertation to a practice-theoretical perspective on organizations, reveal the links to other related literatures, and specify avenues for future research.

1.2 Reflection on Ontological and Epistemological Assumptions, Methodological Choices and Research Interest

Given the plurality of theoretical perspectives in organization studies (Scherer, 1998; 2003; Scherer & Steinmann, 1999), it is important to reflect on the ontological, epistemological and methodological choices that underpin the research conducted for this thesis. At the same time, this reflection allows to position this thesis in relation to other theoretical perspectives. Taking into consideration that practice theory is not a unified theory (Schatzki et al., 2001), but rather a variety of theoretical perspectives that share some common elements and 'family resemblances' (Nicolini, 2013), this investigation of the underlying assumptions of the practice-theoretical perspective may not do full justice to each strand of practice theory (e.g., see Llewellyn and Spence, 2009 for the distinctive characteristics of Ethnomethodology). Hence the following reflections should not be understood as a full-fledged, in-depth analysis of the meta-theoretical assumptions of the practice-theoretical perspective, but rather as a broad orientation. Where particularly prominent, the differences in assumptions between different practice theorists and strands of practice theory will be made explicit.

Several scholars have attempted to systematize and categorize the plurality of organization theories in terms of their basic assumptions (e.g., Astley & van de Ven, 1983; Burrell & Morgan, 1979; Gioia & Pitre, 1991). From these efforts, two dimensions have emerged as particularly salient (Scherer, 2003): (1) assumptions about the nature of social sciences and (2) the research interest of the scholar. Based on these two dimensions, Burrell and Morgan (1979) developed a framework that is particularly suitable for positioning the practice approach. They identified four paradigms that allow to capture and categorize the different approaches in organization studies and the social sciences in general: functionalism, interpretivism, radical humanism (critical theory as its most prominent representative) and

radical structuralism. These paradigms reflect the "researcher's purpose of activity (research interest), the character of the examined object (ontology) and the suitable methodology for examining it" (Scherer, 2003: 313). Practice theory has its origin in the interpretive paradigm (Rasche & Chia, 2009; Reckwitz, 2002) and has developed distinctive characteristics that differentiate it from other interpretive approaches. Some strands of practice theory (e.g., Bourdieu, Foucault) have even developed associations with critical approaches. In the following, the practice-theoretical perspective will thus be characterized in relation to other interpretive approaches, critical theory and functionalism that constitutes the dominant approach in contemporary organization studies (Gioia & Pitre, 1991; Scherer, 2006).

Assumptions about the Nature of Social Science

Concerning the ontological assumptions (i.e., assumptions about the essence of the phenomenon under investigation), practice theory has transformed the 'mentalistic' heritage (Reckwitz, 2003: 288) of many interpretive approaches, i.e., the assumption that social reality is the product of individual consciousness and that social phenomena are hence socially constructed in the 'minds' of people, by pointing to the materially-mediated and situated social practices as the site for the production of social reality (Rasche & Chia, 2009). The practice-theoretical perspective thus maintains that social reality neither exists as an external reality (as is claimed in functionalism) nor does it reside in the minds of individuals, but that it is produced by practices (Feldman & Orlikowski, 2011). In other words, the social world is made up of practices and all social phenomena, including subjective meanings and social institutions, "are to be understood as constellations of, aspects of, or rooted in practices" (Schatzki, forthcoming: 2).

Practice-theoretical studies differ in the degree to which they foreground and emphasize this practice ontology. What could be labeled 'strong' practice ontology approaches give primacy to practices and hence understand everything else as derivative or epiphenomena of practices. For example, Chia and Holt (2006) conceptualize strategic actors as the *product* of the practices they are embedded in, i.e., their agency and identity arise through their actions that reproduce these practices. In contrast, other studies implicitly take on a 'light' practice ontology by assuming that individuals and their identity and intentions are *shaped* by practices (e.g., Jarzabkowski, 2003, 2004). This thesis does not foreground and emphasize the primacy of practices and hence can be characterized as a study with a 'light' practice ontology.

Practice theory also differs in its ontological assumptions about the levels of reality. According to Schatzki (2011: 14), levels of reality are "domains of entities between which

systematic relations of causality, constitution, or supervenience exist". In functionalism, for example, exists the classic distinction between 'micro' and 'macro': the micro-level refers to the level of individuals and their actions, while the macro-level typically refers to social structures, systems and institutions. The functionalist paradigm encompasses two modes of explanation: one approach assumes that higher-level social phenomena can always be derived from individual behavior (methodological individualism), while another approach assumes that these social phenomena have characteristics of their own that cannot be explained by individuals taking action (holism) (Scherer, 2003). In interpretivism, the distinction is not so clear-cut because interpretive approaches typically focus on one distinct level, that is, for example, the interpretations of individual actors or institutional norms and logics or social orders of worth.

In contrast to these approaches, some strands of practice theory (e.g., Schatzki and actor-network theory) assume that there exist just one level of reality, i.e., the level of social practices (Schatzki, 2011, forthcoming). These variants of practice theory are characterized by what is known as a "flat ontology", i.e., the idea that all social phenomena stretch out sideways, that is horizontally, on one level instead of vertically along different hierarchical levels (Schatzki, 2011; Seidl & Whittington, 2014). In other words, both individual actions and interpretations and larger social phenomena, such as norms, values and institutions, occur within and are aspects or slices of social practices. As a consequence, social phenomena that are typically referred to as macro phenomena are aspects of *larger* bundles of practices (Schatzki, 2011). The three papers compiled in this thesis implicitly assume a flat ontology and conceptualizes organizations as bundles of practices.

Other strands of practice theory, however, similar to functionalism, refer to vertical hierarchical levels to explain larger phenomena. Following the terminology of 'flat ontology', these approaches are referred to as "tall ontologies" (Seidl & Whittington, 2014: 2). They explain micro-level phenomena such as everyday strategizing by reference to meso-level or macro-level structures, such as macro-level discourses of strategy (e.g., Knights & Morgan, 1991). Leading practice theorists such as Foucault and Giddens are characterized as tall ontologies (Seidl & Whittington, 2014).

The epistemology (i.e., assumptions about how knowledge is possible) and mode of theorizing in the practice-theoretical perspective is similar to other interpretive approaches. Assuming that social phenomena are generated through the enactment and reproduction of social practices implies that researchers cannot adopt the role of the objective observer, but rather have to take a participating perspective and understand the situated meanings of actors

(Scherer, 2003). This approach also means recognizing the 'double hermeneutics' (Giddens, 1976) of research, i.e., the researcher always also interprets the interpretations of the actors. As a consequence, knowledge is not durable in the sense of being replicable and predictive (as in functionalism), but it offers contextualized understandings.

Yet, as practice theory aims to uncover the 'logic of practice' (Bourdieu, 1990) that characterizes all practices, it assumes that knowledge is generalizable to some extent. It attempts to do so through 'theoretical' generalization (Feldman & Orlikowski, 2011), that is by identifying regularities and causal relationships that can be understood as explanatory mechanisms (Hedström & Swedberg, 1998). Explanations that focus on mechanisms do not try to estimate the statistical influence of different variables (statistical generalization), but rather try to uncover how (i.e., through what process) different phenomena are linked to each other. In other words, mechanisms provide a "plausible account" (Hedström & Swedberg, 1998: 7) that explains observed regularities. As Feldman and Orlikowski (2011: 1249) point out, even though the context of each practice-based study is different, "the dynamics and relations that have been identified and theorized can be useful in understanding other contexts". In organization theory in general, a move towards mechanism-based theorizing has been observed (Davis, 2005; Davis & Marquis, 2005).

What is distinct about theorizing in the practice-based approach is the "epistemic open-endedness of concepts" (Sandberg & Tsoukas, 2011: 353), that is concepts are empirically underdetermined and are open for further specification in specific cases. This open-endedness invites researchers to look for similarities and differences in empirical contexts and to make new conceptual distinctions, thereby further developing the understanding of the logic of practice (Sandberg & Tsoukas, 2011). Thus, Nicolini (2013: 215-216) drawing on the Belgian philosopher of science Isabelle Stengers (1997) argues that practice theory aims to develop (provisional) propositions that make both scholars and practitioners "more articulate; that is, more capable of appreciating differences that matter [...which] in turn opens up new opportunities for acting (or not acting) in a more informed way".

A third important aspect of the assumptions about the nature of social science are beliefs about human nature and its relation with the environment. Practice theory overcomes the classic distinction between voluntarism (i.e., actors have a high degree of autonomy and can exercise free will in their actions) and determinism (i.e., actors respond in a predictable fashion to situations) (Burrell & Morgan, 1979) by depicting actors as the carriers of social practices (Rasche & Chia, 2009: 720). Hence practice theory assumes that actors are

influenced by the practices in which they are embedded, but at the same time they can stretch the boundaries of what is recognized as a practice (Nicolini, 2009) and thereby challenge and over time change the practices they are embedded in. Some strands of practice theory (e.g., Bourdieu, Giddens) parallel thinking in critical theory that research can help release actors from their constraints by revealing to them the constraints they are embedded in. Both Giddens (1976) and Bourdieu (see Callewaert, 1999) assume that the results of research do not remain isolated, but re-enter and reshape the world they have meant to describe.

The ontological and epistemological assumptions of the practice-theoretical perspective also have specific implications for methodological choices: To uncover the nature of social practices, scholars need to get a detailed and contextual understanding of the different aspects of a particular practice or bundle of practices (Miettinen et al., 2010; Nicolini, 2013). This implies that scholars need to obtain first-hand knowledge and experience of the everyday flow of life and that proximal research methods like surveys and interviews are unfaithful to the basic tenet of 'getting close to practice' (Rasche & Chia, 2009). In these methodological choices, the practice-theoretical approach, like other interpretive approaches, can be characterized as ideographic: it is interested in understanding the particular *actions* of individuals, that is their intentions and their orientation towards particular goals, from a participant perspective rather than merely observing *behavior* (Scherer, 2006).

Even though there exists no 'standard' method, the preferred choice of practice theory scholars appears to be ethnography, as it is reflected in the work of leading practice theorists like Bourdieu and Goffman (Bourdieu & Passeron 1977; Goffman 1989; Wacquant 2004) and contemporary scholars (Feldman, 2000; Kaplan, 2008; Nicolini, 2009). Given that interviews and case studies based on archival material rely heavily on reported accounts, these methods "make it hard to understand and unravel the tacit and deeply embedded nature of practices" (Rasche & Chia, 2009: 725). In contrast to the logic of validation employed in functionalist approaches in which theory generates hypothesis that are then tested, ethnographic research in the practice approach often employs a logic of discovery (Locke, 2011). This logic implies investigating social phenomena "without pre-conceived models or frameworks, and being open to any surprises we may experience in the field and working with them to develop new ideas, concepts and/or explanations" (Cunliffe, forthcoming: 5). The ethnography that forms the basis for the first two papers has been conducted in this spirit: at the beginning of my study I was broadly interested in the emergence and development of organizational routines.

When I noticed that organizational members *talked* a lot *about* the routines they were performing, I became interested in the role of talk in organizational routines.

In line with the logic of discovery, practice theory scholars typically neither use a purely inductive (characteristic of traditional interpretive research) nor a purely deductive approach (characteristic of functionalist research) (Scherer, 2003; 2006), but rather pursue an approach known as abduction, i.e., iterating between the literature and the empirical case in order to develop new theoretical insights (Agar, 2010; Locke, 2011; Van Maanen, Sørensen, & Mitchell, 2007). This mode of theorizing is neither bottom-up nor top-down, but rather is characterized by an "interplay of experience, literature and ideas to generate new understandings and insights about the specific practices under study" (Cunliffe, forthcoming: 5).

Research Interest

The second dimension important to position the practice-theoretical approach in relation to other theoretical perspectives is the interest pursued in conducting research. Burrell and Morgan (1979) distinguish between two kinds of research interests: some researchers are particularly interested in explaining social order and equilibrium (functionalist and intepretive paradigm), while others are more interested in criticizing and changing the status quo (critical theory). The practice-theoretical perspective is clearly aligned with the first research interest as it aims to understand and explain contemporary organizing. However, unlike the functionalist perspective which takes a technical research interest, that is an interest in the prediction and control of objectified processes (Scherer, 2009), practice theory (similar to other interpretive approaches) takes a practical interest in the understanding of action and symbols. This research interest is labeled 'practical' "because the process of making sense of the world is understood to be a precondition of any form of social action, including the precondition and control of objectified processes" (Willmott, 2003: 99). Similar to most other practice-based studies (e.g., Barley, 1986; Jarzabkowski, 2008), this thesis has been conducted with a practical research interest.

Like other interpretive approaches, the practice-theoretical perspective can be criticized for systematically excluding normative-ethical questions from its analysis (Putnam, Bantz, Deetz, Mumby, & van Maanan, 1993; Scherer, 2003, 2009). Due to its implicit commitment to refrain from value statements (value-free thesis), most strands of practice theory do not provide an evaluate scheme for determining what is 'good' or 'bad' and how social conflicts should be solved and which interests should be heard. Yet there exist some strands of practice theory that also pursue an emancipatory interest, the third of the three

knowledge-constitutive interests as identified by Habermas (1968). An emancipatory research interest focuses on "critical reflection and change of the status quo of social systems so that subordination and discrimination is reduced and collective self-actualization is fostered" (Scherer, 2009: 36). In particular, studies inspired by Foucault's discussions of power, knowledge and discourse are characterized by a more critical research interest (e.g., Knights & Morgan, 1991; Mantere & Vaara, 2008). Like the critical theorist, researchers in this stream of the practice-based literature question the truth and legitimacy of the propositions of the actors (Scherer, 2003).

Even though Bourdieu was primarily interested in describing and explaining the social world, he also exhibits a critical attitude in believing that his theories worked as critique when reinserted into society (Callewaert, 1999). What his more, his development of 'reflexive sociology' can be understood as an attempt to "bring back into the picture *that which is repressed in/by scholastic thought*" (Karakayali, 2004: 353; emphasis in original) While Bourdieu's approach is fundamentally different from the critical theory of the Frankfurt School which includes critique as an essential feature of theory as such (Scherer, 2009), Bourdieu's work can nevertheless be understood as critical research that attempts to reveal the inequalities of modern society.

Even when driven by a practical research interest, practice theory scholars are not agnostic of the effects of their research in the world. Taking a practice-theoretical perspective also means recognizing that studying and theorizing practices is itself a practice and that researchers as "theoretical producers are responsible" (Feldman & Orlikowski, 2011: 1250) for the consequences their findings generate. In contrast to functionalism that aims to generate predictions that make objectified processes more controllable and critical theory that aims to provide normative recommendations, practice theory "can identify organizational levers for enabling change in practices while supporting and reinforcing those practices that are working" (Feldman & Orlikowski, 2011: 1250). Practice theoretical research can thus have very specific and tangible practical implications that can be used to develop organizational interventions. These organizational interventions have the potential to be more directly relevant to practitioners as they are informed by a deep understanding of the micro-dynamics of everyday interactions (Feldman & Orlikowski, 2011). While the practical implications of this research are not explicitly developed in this thesis, the reader may well recognize them in the individual papers.

As a whole, practice theory can be characterized as a particular variant of the interpretive paradigm that differs from other interpretive approaches in that it focuses on

social practices as the site of social reality and uses explanatory mechanisms and an abductive approach as a mode of theorizing. Particular strands of practice theory differ in the extent to which they assume a 'strong' or 'light' or a 'flat' or 'tall' practice ontology. Some strands of practice theory even take on more critical characteristics by also pursuing an emancipatory research interest. Table 1 summarizes the distinct characteristics of practice theory and its variants.

Table 1: Assumptions about the Nature of Social Science and Research Interest of Practice Theory

Assumptions about the Nature of Social Science	
Ontological Assumptions	▪ Social reality resides in practices and all social phenomena are analyzed in reference to practices ▪ *Variants*: 'Strong' practice ontology (e.g., individuals are the product of practices) vs. 'light' practice ontology (e.g., individuals are shaped by practices) ▪ *Variants*: 'Flat' ontology (one level of reality composed of practices, e.g., Schatzki, actor-network theory) vs. 'tall' ontology (hierarchical levels of reality, e.g., Giddens, Foucault)
Epistemology	▪ Knowledge is contextual, but can be generalized to some extent by identifying the 'logic of practice' ▪ Focus on 'theoretical generalizations', i.e., explanatory mechanisms that provide a plausible account of relationships ▪ Epistemic open-endedness of concepts invites researchers to make new conceptual distinctions
Assumptions about Human Nature	▪ Actors as carriers of social practices, both determined by and able to change practices they are embedded in ▪ *Variants*: Research can help release actors by revealing the constraints they are embedded in (e.g., Giddens, Bourdieu)
Methodology	▪ Ideographic: detailed understanding of everyday experience of practices (e.g., ethnography) ▪ Logic of discovery ▪ Typically abductive, one or few cases
Research Interest	
	▪ Primarily aims to describe and explain social order with a practical research interest ▪ Potential for organizational interventions informed by micro-dynamics of everyday interactions ▪ *Variants*: In addition, emancipatory interest, revealing the inequalities of modern society (e.g., Foucault, Bourdieu)

1.3 Summary of the Three Papers

In the first paper, co-authored with Stéphane Guérard and David Seidl, we draw on my ethnographic study at CellCo to examine how actors use talk in relation to organizational routines. We focus on talk as the specific form of verbal communication between actors

because it features prominently as a subject in most practice theories (e.g., Foucault, 1972; Giddens, 1984) and existing studies on routines have documented the pervasiveness of talk in and around routines. Despite this importance of talk, scholars to date have paid hardly any attention to the role of talk in organizational routines, while other forms of nonverbal communication have been investigated before (e.g., Bapuji, Hora, & Saeed, 2012; D'Adderio, 2003). In line with the practice-theoretical perspective applied in this thesis, we conceptualize talk and everyday conversations as a particular form of action in routines and language as a tool for taking this action (Dreyfus, 1991; Schatzki et al., 2001). We build on the practice theory of Martin Heidegger, particularly as interpreted by Dreyfus (1991; 2000), to examine how actors use talk in relation to a specific routine at CellCo—the shipping routine.

Applying Heidegger's concepts to our context, we distinguish three distinct modes of talk: (1) *enacting talk*: actors use talk as an integral part of enacting a routine, (2) *situated reflective talk*: actors use talk propositionally to point out particular aspects of a specific performance of a routine, and (3) *distanced reflective talk*: actors use talk to refer to the general properties and abstract pattern of a routine. Analyzing how actors use these modes of talk to influence routine change, we found that in the enacting mode the actors did not use talk to initiate, affect or retrospectively acknowledge routine change. In contrast, in the situated reflective mode the actors used talk to adapt a specific performance, while in the distanced reflective mode, they used talk to propose and potentially agree on more fundamental changes to the focal routine's pattern. Tracing the use of talk over time, we develop a processual model that theorizes how switching between modes of talk enables and constrains actors in the way they use talk in the context of routine change, and, in particular, how combining different modes of talk sequentially allows actors to overcome the challenges posed by fundamental routine change.

The first paper contributes to the practice-based literature on organizational routines in three particular ways. First, we introduce to the theory of routine dynamics talk as a distinct element of routines, theorizing it as a means that actors use to generate and select variations in routines and thereby extending the existing evolutionary model of routine change (Feldman & Pentland, 2003). We acknowledge that actors not only use talk, but also *nonverbal* actions to change routines, and that they may use talk before, in the midst of, or after nonverbal actions that change routines. Our theoretical model delineates *how* actors' use of talk interacts with these other actions and how they use it to generate and/ or select actions that change routines. Second, our study reveals a different understanding of the relation between the ostensive and performative aspects in routine change. While the literature to date treats the performative

aspect as driving change by generating variations (Feldman and Pentland 2003), we show that routine change can also be induced through the ostensive aspect. Third, our findings have implications for the ways in which routine embeddedness is conceptualized: in contrast to the existing literature, which treats embeddedness as a stable characteristic of routines (Howard-Grenville 2005), our findings show how the embeddedness of routines is created, maintained and modified, at least in part, through talk.

In the second paper, co-authored with David Seidl, we examine empirically the role of resources in the process of routine change. Despite their central role in organization theory in general (e.g., Barney, 1991; Pfeffer & Salancik, 1978), their important role in the capabilities perspective on routines (e.g., Dosi, Faillo, & Marengo, 2008) and their role as a constitutive element of practices (Giddens, 1984), resources are curiously absent from practice-based theorizing about the internal dynamics of routines. Drawing on a practice-based perspective of resources, known as 'resourcing theory' (Feldman, 2004; Feldman & Worline, 2011), we locate resources in the structural part of routines: the ostensive aspect of routines thus not only consists of participants' shared schemas, as depicted in the extant literature (Dionysiou & Tsoukas, 2013), but also of resources. According to resourcing theory, resources are neither given nor defined by any a priori characteristics (Feldman & Worline, 2011), but rather by their use in practice: resources are those assets that enable actors to enact schemas (Feldman, 2004). Thus, resources and schemas mutually imply each other: "schemas are the effects of resources, just as resources are the effects of schemas" (Sewell, 1992: 13). Resourcing—defined as creating or changing resources to enact schemas—is the key mechanism that allows actors to link schemas and resources in a novel way, thereby turning potential resources into resources-in-use and possibly changing the schema (Feldman & Quick, 2009).

Analyzing two routines from my ethnographic study at CellCo—the assembling and the shipping routine—we find that resources play an important role in routine change by triggering variations in performances and constituting the basis for selecting some of these variations to be retained in the ostensive aspect. Furthermore, we find that resourcing not only drives change within one routine but also across several routines, in sometimes unpredictable ways.

In the second paper, we contribute to the practice-based literature on routines by extending the evolutionary model of routine change (Feldman & Pentland, 2003): we theorize resourcing as the underlying mechanism of *how* actors generate variations in performances and *how* they select specific performances for retention in the ostensive aspect. In particular, we identify two types of resourcing in which the source of variation is independent from the

mechanism of selection: (1) actors select changes in schemas on the basis of resources and (2) they select changes in resources on the basis of schemas. In addition, we further develop the conceptualization of the ostensive aspect by demonstrating that resources-in-use are a constitutive element of the ostensive and thus contribute to guiding how routines are enacted. As a consequence, resources also shape and are shaped by actors' temporal orientations in enacting routines. Lastly, the paper also demonstrates that embeddedness is not a given characteristic of routines but rather a dynamic process of generative resourcing cycles that unfold over time—sometimes in unpredictable ways.

The third paper, co-authored with Stéphane Guérard and David Seidl, reviews literature from different academic disciplines on the practice of meetings in organizations. Meetings are a pervasive phenomenon in organizations, so much that managers spend two thirds of their time in meetings (Kurke & Aldrich, 1983; Mintzberg, 1973; Tengblad, 2006), and despite the increasing use of electronic communication media, meetings continue to be a vital aspect of organizational life. However, the wide spreading of research has impeded a comprehensive understanding of meetings as an organizational phenomenon, and most research in organization studies still treats meetings as a 'neutral' frame for decision making (Allison, 1971) or group work (Gersick, 1988). Our review of the literature reveals that despite the diversity of theoretical approaches applied to study meetings, they are either based on a variant of practice theory or exhibit at least some affinity towards practice theory through the concept of recursivity.

To synthesize existing research and provide an integrated picture of the practice of meeting, my co-authors and I thus develop a general practice-theoretical framework for studying meetings. We conceptualize meetings as particular social practices which consist of several sub-practices—such as chairing a meeting or giving a PowerPoint presentation—which we refer to as 'meeting practices'. Drawing on Nicolini (2009; 2013), our general practice-theoretical framework combines two conceptual movements: (1) zooming in on meeting practices revealing the micro-structures and micro-dynamics that constitute the meeting and (2) zooming out of the meeting studying the connections between the meeting and other organizational practices and phenomena.

Overall, the third essay contributes to the literature by providing an integrated account of meeting practices and the various elements that constitute them, i.e., the body, the mind, artifacts and background knowledge. In addition, by zooming in, we identify the breadth of practical concerns that orient meeting activities and group them into five categories: coordination, cognitive, political, social and symbolic concerns. By zooming out, our analysis

reveals that meetings are connected to a variety of different organizational practices in a range of different ways. Our results suggest that the practice of meeting is distinct from other organizational practices because it exhibits a high level of flexibility and adaptability and brings together different actors, artifacts and discourses in a unique way, i.e., in the same space and time. Due to its various connections to other organizational practices, the meeting plays an active role in keeping together the various practices that constitute the organization. Thus this study reveals that meetings are not a mere 'container' for the activities taking place within it, but actively shapes other organizational practices and phenomena. Our general practice-theoretical framework provides a starting point for explaining why meetings are such a pervasive phenomenon in organizations.

Table 2 summarizes the emphasis, conceptual foundations, object of inquiry and methods of the three papers compiled in this dissertation.

Table 2: Dissertation Components

Title	Emphasis	Conceptual foundations	Object of inquiry	Methods
1. A practice-theoretical perspective on the role of talk in routine change	Talk as a specific aspect of organizational practices	Theory of routine dynamics, Heideggerian practice theory	A specific organizational practice at CellCo: the shipping routine	One-year ethnographic study at CellCo, including non-participant observations, interviews and collection of documents
2. Resourcing routine change: how resources contribute to routine dynamics	Resources as a constituting element of practices	Theory of routine dynamics, resourcing theory (based on Giddens' structuration theory)	Two specific organizational practices at CellCo: the assembling routine & the shipping routine	
3. A practice-based framework of organizational meetings: a review and a new conceptualization	Accomplishment of organizational practices; the multiplicity of practical concerns	General practice-theoretical framework zooming in and out of practice (Nicolini, 2009, 2013)	The state of knowledge and gaps in the literature on organizational meetings	Web-based literature search; review of studies in five different academic disciplines

1.4 Contributions to a Practice-Theoretical Perspective on Organizations

The three papers compiled in this dissertation shed light on the dynamics of organizational practices and together illuminate three specific areas related to how practices are accomplished and changed: (1) the contribution of practices to change in organizations (2) the interplay of agency and structure in the accomplishment of practices and (3) the embeddedness of organizational practices, a concept that allows to overcome the traditional distinction between micro and macro.

First, the dissertation as a whole contributes to the understanding of how practices contribute to change in organizations: Both the first and the second paper focus on how the enactment of organizational routines may trigger, influence or prevent change. Because the majority of work in organizations is accomplished through routines, the mechanisms revealed in these papers also hold the key for understanding how organizations change (Becker & Lazaric, 2009). In particular, the first paper reveals how actors use talk in different ways to initiate, influence, prevent or retrospectively acknowledge change in routines. Actors also use talk to associate routines with other organizational practices or structures, thereby bringing about or preventing change. In turn, the second paper emphasizes how resources used in routines can be a trigger or an enabler for change, by being a source of variation and constituting the basis for enacting alternative patterns. While resources also contribute to spreading change to other routines, they may also prevent change by empowering established schemas over alternative schemas. Both the first and the second paper highlight how there exist more variations than currently depicted in the literature: certain variations generated through actors' talk or triggered by changes in resources or schemas are already selected out *before* they are enacted.

The third paper, in turn, explicates how certain meeting practices may be oriented towards changing the organization (e.g., critical reflection) or towards preventing change (e.g., suppressing new ideas). Depending on the practical concerns of actors, the same meeting activities may thus promote or inhibit change. In addition, the paper illuminates how the associations between the practice of meeting and other organizational practices may contribute to change. As a whole, the papers demonstrate that the same mechanisms supporting organizational change may also prevent it, thereby contributing to inertia. The mechanisms of change outlined in the dissertation also allow explaining how change may unfold in unexpected and surprising ways. These theoretical relationships thus appear apt to capture the complexities and dynamics of change in contemporary organizing.

Second, the three papers address the interplay of agency and structure in the accomplishment of practices—an important theme in most practice theories. From a practice perspective, agency and structure are understood to be mutually constitutive, that is social orders—such as institutions, established patterns or schemas—cannot be conceived without considering the role of human actions, while at the same time human actions are always already embedded in structures (Feldman & Orlikowski, 2011). This duality is particularly prominent in the second paper that explicitly focuses on the interplay between the structural part of routines, i.e., schemas and resources, and the agential part, i.e., specific actions. The

paper illuminates how the structural aspect enables and constrains routine action by providing established schemas and resources-in-use, and how the agential aspect introduces variations and changes the structural aspect by resourcing alternative schemas and drawing on potential resources. In turn, the first paper focuses on talk as a particular means for actors to exert agency and demonstrates how actors use talk in different ways to relate to structures. In particular, actors may use talk to either reproduce existing structures (enacting talk), to temporarily deviate from an established pattern (situated reflective talk) or to actively challenge and permanently change established structures (distanced reflective talk).

The third paper approaches agency from yet a different angle, focusing on the different practical concerns of actors that contribute to the fact that each meeting is performed differently. At the same time, the paper demonstrates how the structural features of meetings (e.g., chairing) persist across diverse organizational settings and how larger structural aspects—that is the bundle of practices in which meetings are embedded—influence how they are performed. Together the three papers in this dissertation illuminate what Emirbayer and Mische (1998: 1004; emphasis in original) term "the *double constitution of agency and structure:* temporal-relational contexts support particular agentic orientations, which in turn constitute different structuring relationships of actors toward their environments."

Third, the dissertation as a whole overcomes the traditional distinction between micro and macro and instead advances an understanding of how particular practices are embedded in the context, that is in the bundle of practices that constitute the organization (Schatzki, 2006). Both the first and the second paper emphasize that embeddedness is not a given characteristic of routines, as it is currently depicted in the literature (Howard-Grenville, 2005), but rather a dynamic process that unfolds over time, sometimes in unpredictable ways. In particular, the first paper highlights how embeddedness, at least in part, is created, maintained and modified through talk. The second paper reveals how resourcing creates embeddedness in the first place and constantly changes it by linking the structural aspect of routines more or less tightly to other structures in the organization. In addition, the paper calls into question the understanding of strong and weak embeddedness and suggests studying embeddedness as a process of unfolding resourcing cycles rather than a given characteristic of routines. By zooming out of the practice of meeting, the third paper proposes a way to categorize the different associations between this practice and other organizational practices and starts to uncover the range of different mechanisms that keep these associations in place. Taken together, the three papers point towards the importance of bundles of practices in creating the complexities and dynamics of organizational phenomena.

1.5 Links to Related Literatures

The challenge of all ethnographic work is that there are multiple stories that could be told about the field (van Maanen, 1988). Yet writing for publication in academic journals means choosing a particular conversation to join (Huff, 1999). Clearly the first two papers of this thesis could have been written for different audiences with other theoretical perspectives. However, since journals are looking for a clear and focused storyline in manuscripts (e.g., Pratt, 2009), especially with qualitative work which carries the danger to include too many topics in a single manuscript, these papers have been written with a practice-theoretical audience in mind and the intent to contribute one core idea to extant theory. In the following, I point towards possible links with three other literatures and sketch, necessarily roughly, some ideas of how the findings of this thesis relate to these literatures: (1) forms of engaging with practice, (2) organizational learning and knowledge, and (3) the resource-based view and the capabilities perspective.

Forms of Engaging with Practice

The findings of the first paper reflect a well-know distinction in philosophy, in particular in phenomenology (e.g., Edmund Husserl, Martin Heidegger) and in the related literature on the methodical constructivism of the Erlangen School (Wilhelm Kamlah, Paul Lorenzen): the three modes of talk that we distinguish follow the different forms of engaging with practice that constitute the basis for theorizing in phenomenology-informed studies (e.g., Chia & Holt, 2006; Dreyfus & Dreyfus, 2005; Sandberg & Dall'Alba, 2009; Tsoukas, 2010; Yanow & Tsoukas, 2009) and in studies informed by methodical constructivism (e.g., Janich, 1989; Lorenzen, 1987; Lueken, 1992; Scherer & Dowling, 1995; Scherer, 2006; Scherer & Steinmann, 1999). Both phenomenology and methodical constructivism emphasize the primacy of praxis, i.e., "actions or systems of actions" (Scherer & Steinmann, 1999: 526). In the words of Heidegger (1962), the primary mode of being is *being-in-the-world*, we are already always "in the middle of things" and are "thrown" into a condition of everydayness (Sandberg & Holt, 2011: 232). Similarly, methodical constructivism emphasizes that *pre-theoretical praxis* in which people are engaged as part of everyday life precedes any theoretical consideration or reflection (Scherer & Dowling, 1995). Both phenomenology and methodical constructivism argue that when there occurs a breakdown (Dreyfus, 1991) and the practical know-how of everyday life becomes problematic (Scherer & Dowling, 1995), actors distance themselves from their actions and reflect on what has become problematic. These different forms of engaging with practice are reflected in our concepts of '*enacting talk*'

(being-in-the-world/ absorbed coping, pre-theoretical praxis) and '*situated reflective*' and '*distanced reflective talk*' (deliberate and detached coping, theoretical praxis).

The first paper of this thesis can be understood as an attempt to empirically identify and define these different modes of engaging with practice. As a result, the paper works out important aspects that philosophers have not (and due to their particular research interests will not) consider and thereby makes these rather abstract theories applicable for organizational research. First, in particular in contrast to phenomenology that typically focuses on the individual actor, the findings of our first paper show that switching to a more distanced form of engaging with practice is not only triggered by breakdowns, but also equally by external actors and talk outside the practice that actors are embedded in. Indeed, triggers originating from outside absorbed coping may be important to prompt deliberate and distanced reflection as actors engaged in practice often experience difficulties in putting their immediate practical concerns aside.

Second, in the paper we delineate the conditions that must be present for a group of actors to accomplish the switch to a more distanced mode of reflection. As our findings show, switching to a distanced and theoretical mode of deliberation is more effortful for a group of actors than for individuals because certain actors may not be physically present or may not be willing to engage in collective reflection. Third, our findings reveal the importance of sequentially combining different forms of engaging with practice in order to overcome the problem of fundamental change. In particular, our findings reveal that switching back to the primary mode of being can be problematic when several actors are involved because envisioned changes discussed amongst actors may not be sufficiently specified to be immediately enacted or actors may differ in the extent to which they are willing to or remember to apply envisioned changes. Given that a substantial amount of work in organizations depends on coordination between several actors, these findings may be particularly revealing for applying phenomenology and methodical constructivism to organizational phenomena.

At the same time as our findings may inform organizational research that draws on phenomenology and methodical constructivism, future research in the line of our first paper could be informed by concepts and insights in these literatures. For example, Scherer and Steinmann (1999) point out that in theoretical praxis actors explicitly consider validity claims and attempt to solve them. According to Habermas theory of communicative action (1984), four validity claims are raised by the speaker and can be challenged by the listener: "the comprehensibleness of what he or she says, the truth of the utterance, the speaker's right to

say what he or she says, and the sincerity of the speaker" (Scherer, 2009: 33). In further uncovering how actors' use of talk influences change of organizational practices and routines, future work could investigate the validity claims that are raised in situated reflective and distanced reflective talk and how they are challenged.

Organizational Learning and Knowledge Management

Related to the different forms of engaging with practice, the first papers also holds insights for studies on organizational learning and knowledge management. In particular, our study is well-aligned with the notion that knowledge and learning is an aspect of practice (Spender, 1996a, 1996b) and that "knowing is not separate from doing" (Gherardi, 2000: 215). In this sense, learning occurs through "participation in a practice" (Gherardi, 2000: 214) and through engaging in organizational routines (Feldmann, 2000). The first paper of this thesis shows parallels to and offers potential insights for three particular topics in organizational learning and knowledge management: (1) the relation between tacit and explicit knowledge and different modes of knowledge creation (2) the distinction between single- and double-loop learning and (3) the distinction between theories-in-use and espoused theories.

First, the different modes of talk that we identify in the first paper can be associated with different types of knowledge (Polanyi, 1962, 1966; Spender, 1994, 1996b) and different modes of knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995): in situated reflective talk, actors articulate *tacit knowledge*, that is knowledge that is associated with experience and that "has not yet been abstracted from practice" (Spender, 1996b: 67). In situated reflective talk, actors share experiences and thereby allow others to learn and create new tacit knowledge—a process that Nonaka and Takeuchi (1995) have termed 'socialization'. In situated reflective talk, actors also 'internalize' explicit knowledge and convert it into tacit knowledge by reminding others of and (re)contextualizing explicit knowledge, which reflects the traditional concept of learning (Nonaka, 1994). In contrast, in distanced reflective talk, actors articulate *explicit, propositional knowledge* that "is transmittable in formal, systematic language" (Nonaka, 1994: 16). In this mode of talk, actors convert tacit knowledge into explicit knowledge, what is known as 'externalization', and also 'combine' different bodies of explicit knowledge (Nonaka & Takeuchi, 1995). Given these similarities with different modes of knowledge creation, our dynamic model of how the different modes of talk interact over time resonates well with the understanding in the literature that the dialogical interaction of the different types of knowledge drives knowledge creation in organizations (Nonaka, 1994; Spender, 1996b).

The focus on talk allows us to offer important insights to studies of organizational learning and knowledge management that often do not distinguish between talk and other nonverbal forms of learning and knowledge creation. In particular, our study identifies the conditions that must be present so that actors can use talk to share experiences and create new knowledge through talk. If these conditions are not met, learning is either inhibited or occurs in other ways (e.g., observation, imitation or role-taking). Moreover, our study reveals how learning and sharing tacit knowledge may occur through talk. Even though it is often claimed that tacit knowledge cannot be articulated and communicated through language (e.g., Spender, 1996b; Nonaka, 1994), our findings show that actors can articulate tacit knowledge by pointing out specific aspects of a situation and they can create tacit knowledge in talk by jointly developing a new course of action in a particular situation. Lastly, our findings uncover how tacit and explicit knowledge interact: while Nonaka and Takeuchi (1995) suggest that knowledge creation is a conversion from one type of knowledge to another and that there are forms of knowledge creation in which only tacit (socialization) or only explicit knowledge (combination) interact, we find that both types of knowledge are always present, but that they are foregrounded selectively in different forms of knowledge creation. For example, in situated reflective talk actors articulate and create tacit knowledge, but explicit knowledge forms the background of their talk. Similarly, in distanced reflective talk actors articulate and create explicit knowledge, but they often refer to specific instances and experiences that reflect their tacit knowledge.

Second, our results suggest that the mode of talk is an important element in determining whether actors as a collective group engage in single-loop or double-loop learning (Argyris & Schön 1978, Edmondson 2002). While the situated reflective mode of talk allows primarily for single-loop learning, i.e., detecting and correcting errors within the same framework (within the same ostensive aspect), the distanced reflective mode promotes double-loop learning, i.e., analyzing underlying causes and changing the existing framework (changing the ostensive aspect) (Argyris & Schön, 1978; Edmondson, 2002). Yet we point out that talk in the distanced reflective mode does not necessarily change the existing framework, but may equally confirm it. In other words, the mode of talk is the pre-condition for the type of collective learning that is possible, but it does not determine that learning occurs.

The findings of our study advance the understanding of single- and double-loop learning by identifying the conditions that must be present so that a group of actors collectively engage in either single- or double-loop learning in talk. While the existing literature suggests that individuals' preferences for single-loop learning may prevent double-

loop learning (Argyris, 1976) and that actors' perceptions of power differences and interpersonal risk affect the quality of group-level reflection (Edmondson, 2002), our study reveals that, in addition, a lack of time and space for distanced reflective talk may prevent double-loop learning. Moreover, our study suggests that actors may not be able to put aside the immediate practical concerns of specific performances and therefore may not be able to engage in double-loop learning.

Third, the results of our first paper can be interpreted in light of the conceptual distinction between theories-in-use and espoused theories: in situated reflective talk, participants articulate theories-in-use, i.e., theories that manifest in and can be inferred from action, while in the distanced reflective mode they articulate espoused theories, i.e., theories that actors claim allegiance to (Argyris & Schön, 1974). Thus the mode of talk influences whether participants reflect on their theories-in-use or their espoused theories. While Argyris and Schön argue that by making theories-in-use explicit these converge with espoused theories (Schön, 1983), our results suggest that this is not necessarily the case. In particular, the findings of the first paper show that theories-in-use may 'drift away' from espoused theories when actors continue to adapt performances in specific situations, but do not acknowledge these changes in distanced reflective talk. Similarly, our results show that theories-in-use may drift away from espoused theories when ideas discussed in distanced reflective talk are recontextualized and modified in situated reflective talk.

Certainly talk is not the only way how organizational learning and knowledge creation take place, but it is an important way. Our focus on talk also implies that our findings are more relevant to the understanding of learning and knowledge creation at the social and organizational, rather than at the individual level. As such, despite or precisely because of our narrow focus on talk, the first paper may offer important insights to scholars of organizational learning and knowledge management.

The Resource-Based View and the Capabilities Perspective

The second paper of this thesis focusing on the role of resources in routine change bears important affinities to the resource-based view (Barney, 1986, 1991), its extension into the dynamic capabilities approach (Teece, Pisano, & Shuen, 1997) and the capabilities perspective (Dosi, Nelson, & Winter, 2000) which overlaps greatly with the resource-based view, but emphasizes the processual aspect of capabilities (Dosi et al., 2008). Both the concept of routines and the concept of resources play a central role in and have been objects of empirical investigations in this theoretical tradition. Yet, as Parmigiani and Howard-Grenville (2011: 414) have pointed out, researchers in the practice perspective on routines and

capabilities perspective "seem to be having parallel conversations." This is due to the fact that the two streams of literature focus on different levels of analysis (the capabilities perspective 'black-boxes' routines while the practice perspective focuses on the 'parts' of routines), different questions and explanations (the capabilities perspective focuses on firm-level performance, while the practice perspective aims to explain the internal dynamics of routines) and different theoretical traditions (the capabilities perspective is grounded in economics, the practice perspective is grounded in sociology).

Despite originating in different theoretical perspectives, our practice-based account of resources and routines in the second paper exhibits certain similarities with the resource-based view and the capabilities perspective. In the capabilities perspective, routines are understood as "the building blocks of capabilities, with a repetitive and context-dependent nature" (Dosi et al., 2008: 1167). Organizational capabilities, in turn, are defined as "the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result" (Helfat & Peteraf, 2003: 999). Resources include both tangible and intangible assets that an "organization owns, controls, or has access to on a semi-permanent basis" (Helfat & Peteraf, 2003: 999). Similar to our understanding, resources thus encompass a wide range of assets and things that are used to perform capabilities. They are also viewed as firm-specific and often even specific to capabilities (Parmigiani & Howard-Grenville, 2011). Edith Penrose's (1959) classic *The Theory of the Growth of the Firm*, an influential work in the resource-based view (Kor & Mahoney, 2004; Pitelis, 2002), even hinted at the idea that resources are defined by their use in practice: "Strictly speaking, it is never resources themselves that are the 'inputs' in the production process, but only the services that the resources can render. The services yielded by resources are a function of the way in which they are used—exactly the same resource when used for different purposes or in different ways and in combination with different types or amounts of other resources provides a different service or set of services" (Penrose, 1959: 25).

The capabilities perspective distinguishes between two types of capabilities, ordinary capabilities and dynamic capabilities (Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, & Winter, 2007; Teece et al., 1997; Winter, 2003). Ordinary capabilities refer to those capabilities associated with the typical operations of a firm, and dynamic capabilities are defined as "the capacity of an organization to purposefully create, extend, or modify its resource base" (Helfat et al., 2007: 4). While scholars working in the dynamic capabilities perspective (e.g., Teece, 2007) hence focus on how certain capabilities change and adapt ordinary capabilities and resources, others (e.g., Helfat, 2000; Helfat & Peteraf, 2003) focus

on the dynamics of ordinary capabilities and resources. They recognize that all capabilities have the inherent potential for change and that "adaptation do[es] not necessarily require the intervention of 'dynamic' capabilities as intermediaries" (Helfat & Peteraf, 2003: 998). Helfat and Peteraf (2003: 1009) develop a dynamic view of the evolution of capabilities, but call for "a more complete understanding of the joint evolution of resources and capabilities". It is in this vein where the ideas presented in the second paper may offer important insights for scholars working in resource-based view and the capabilities perspective.

Despite some differences in the conceptualization of resources (e.g., the resource-based view assumes that resources are fixed, limited and scarce and focuses on how resources create value and improve efficiency and effectiveness, while the practice-based perspective assumes that resources are flexible and generated through action, and focuses on how resources create opportunities or barriers for action), our evolutionary model of resources and routines potentially offers important insights for scholars working in these other theoretical traditions. In particular, our model suggests that resources and capabilities should not be considered separately (as this is often the case in existing studies), but rather jointly, as capabilities cannot be performed without resources and resources do not create value without the capabilities that use them.

Our findings reveal how resources and capabilities evolve jointly over time and how the use of resources in performing capabilities can generate new resources. Thus our results suggest that it is not only dynamic capabilities that extend the resource base of an organization (Helfat et al., 2007), but that the performance of ordinary capabilities equally leads to resource accumulation over time. This view also implies that building capabilities not only requires resources (Helfat & Peteraf, 2003), but that performing capabilities also generates the resources necessary to build capabilities. As a corollary, resource heterogeneity, a central concern of the resource-based view (Peteraf, 1993; Helfat & Peteraf, 2003), may be understood as a result of continuously performing ordinary capabilities, not only as a result of differential endowments with or access to resources or differences in dynamic capabilities. In turn, this understanding may shed new light on how resource-constrained organizations may create competitive advantage (e.g., Baker & Nelson, 2005; Sonenshein, 2013). Lastly, our results on how resources contribute to change spilling over from one routine to another may offer insights for understanding how *several* capabilities evolve jointly over time.

For scholars focusing on dynamic capabilities, the findings of the second paper may open up new avenues for future research. Accepting that operating capabilities may also change and extend the resource base of an organization, scholars in this tradition may

investigate how dynamic and ordinary capabilities *work together* to create new and reconfigure existing resources. Importantly, this implies that the combination and recombination of resources and assets (Teece, 2007) is not only a managerial function, but also a function of those actors performing ordinary capabilities.

1.6 Future Research in the Practice-Theoretical Perspective

In emphasizing different aspects of organizational practices, each of the three papers opens up specific avenues for future research. In the following, I highlight three overarching themes that are brought forward in all three papers: (1) the role of material objects in practices, (2) the implications of multiple practical concerns for enacting practices, and (3) the role of power, conflicts and politics in practices.

First, the three papers point towards further investigating the role of material objects in accomplishing and changing practices. Most practice theories recognize the importance of the material arrangements amid which practices transpire (Schatzki, 2005), but they differ with regards to how they theorize the relationship between human and nonhuman agency, ranging from symmetrical relations (e.g., Callon, 1986; Latour, 1987), to intertwined (Pickering, 1995) to entangled (Suchman, 2007). That "objects [...] participate in the accomplishment of the practice and make this accomplishment durable over time" (Nicolini, 2013: 4) becomes evident in all three papers: a wealth of material objects, such as cell tissues, shipping documents, boxes or plates, are crucial elements of the assembling and shipping routine (first and second paper), while the meeting agenda, documents and room arrangements play an important role in enacting the practice of meeting (third paper).

To grasp how practices are materially mediated, the three papers point towards three distinct starting points for future research: the first paper indicates that the way material objects are reflected in conversations and linked to other elements of routines in talk influences how they are involved in the enactment of routines. The second paper suggests that objects are not only part of the material landscape amid which organizational routines are accomplished, but that they become part of the structural aspect of routines as resources-in-use. The extent to which material objects and their features become resources-in-use shapes how they influence the enactment of routines and possibilities for change. Together the first two papers start to unravel the literature's conundrum of why material objects in routines sometimes "matter a great deal [...and sometimes] not at all" (Parmigiani & Howard-Grenville, 2011: 439).

In turn, the third paper points towards investigating the role of material objects as mediators that keep the associations between practices in place (Nicolini, 2009: 1410): on the one hand, material objects may act as generalizers, i.e., introducing the meeting into other practices by summarizing and encapsulating it (e.g., meeting minutes). On the other hand, material objects may act as localizers by bringing other practices into the meeting (e.g., reports and documents). Based on the findings of the three papers, future work may investigate how material objects participate in the accomplishment of practices: How are objects linked to other aspects of practices? What is the role of objects in creating and maintaining associations between practices? How does the nexus of material objects contribute to the observable orderliness of practices? These suggestions for future research fit squarely in the emerging stream of research on 'sociomateriality' that "makes a distinctive move away from seeing actors and objects as primarily self-contained entities [...] to examining how materiality is intrinsic to everyday activities and relations" (Orlikowski & Scott, 2008: 455).

Second, the presence of multiple practical concerns and goals in accomplishing practices is particularly prominent in the third paper, but also reflected to a certain degree in the first two papers. In the Heideggerian tradition of practice theory, "practices unfold according to a specific direction and 'oughtness', or 'how they should be carried out'" (Nicolini, 2013: 166). What is termed 'teleoaffectivity' (Schatzki, 1996), 'practical concerns' (Nicolini, 2013) or the 'lived directionality' of practices describes the observation that "practices are always oriented and […] performed in view of the accomplishment of meaning and direction that they carry" (Nicolini, 2009: 1402). The third paper of this dissertation explicates this 'lived directionality' by highlighting that the practical concerns in enacting a meeting can be very diverse and that multiple practical concerns may be present at the same time. Depending on how these practical concerns are negotiated, meetings can be performed very differently. Similarly, the first paper indicates that actors use talk to introduce situational interests to specific routine performances or to link the routine's pattern to wider interests. And the second paper demonstrates that there can be multiple, sometimes conflicting schemas of how to enact a routine.

Together the three papers also suggest that the multiplicity of practical concerns is driven to some extent by the embeddedness of particular practices in a larger nexus of practices that constitutes the organization. The findings of these papers then raise the question of how the presence of multiple practical concerns influences the accomplishment of a practice: how do actors negotiate different practical concerns and goals in enacting a practice?

Do they negotiate a collective orientation and a shared concern about their activities? How do different practical concerns interact? And how do practices deal with the inherent tensions between multiple practical concerns in enacting a practice? Because organizations are a complex and dynamic bundle of practices, investigating how the multiplicity of practical concerns influences contemporary organizing appears to be an important avenue for future research.

Third, power, conflict and politics feature as important themes in all of the three papers. From the practical research interest that forms the basis of this thesis, these conflicts and tensions are inherent to the accomplishment of practices and thus provide avenues for further theorizing contemporary organizing in the practice-based tradition (Feldman & Orlikowski, 2011). From this perspective, power relations are understood as "a form of social structure, produced and reproduced through the everyday practices of field members" (Levina & Orlikowski, 2009: 674). Yet at the same time the power relations, conflicts and tensions revealed in the three papers in this thesis may provide the starting point for research with an emancipatory interest (Scherer, 2003) to reveal whose interests are privileged in accomplishing and changing organizational practices.

The three papers point towards different opportunities for further investigating power and politics both from a practical and from an emancipatory research interest: the first paper indicates that the more actors use talk in relation to a particular routine, the more susceptible becomes the routine to the influence of power dynamics and internal politics. In this vein, future research with a practical interest could consider how power relations are enacted in talk and how "politics as an interpretive procedure [...] enables actors to author accounts" (Mueller, Whittle, Gilchrist, & Lenney, 2013: 1169) that influence how routines are enacted and changed. Research with an emancipatory interest could draw on Habermas (1984) theory of communicative action to examine the validity claims that are raised in talk about routines and how these are challenged. Or, future studies could draw on Foucault's discussion of power, knowledge and discourse to examine who is privileged and who is excluded from participating in discussions about routine change.

The second paper draws on the notion of resources that plays an important role in the practice theories of Giddens (1984) and Bourdieu (1977). Even though this paper does not explicate the implications of resourcing for power relations, resources clearly shape the possibilities for action of particular actors (Bourdieu, 1986) and hence resourcing is likely to impact power relations. Future work with a practical research interest could thus examine how resourcing creates opportunities for shifting power relations and how actors draw on existing

or create new resources to shift power relations in their favor. From an emancipatory research interest it could be interesting to explore whose interests are served by resourcing and shifting power relations and whose are oppressed. Similarly, future studies in this vein could examine resistance to and in resourcing in organizational routines. The third paper makes shifting power relations more explicit by showing how activities in meetings can be oriented towards specific political concerns, such as setting and advancing a particular agenda, exerting influence, suppressing new ideas or forming alliances and building support. In this area, future research both with a practical and an emancipatory research interest could focus on the interaction order (Goffman, 1982) that is established in meetings, that is the positions that are negotiated or resisted in accomplishing a meeting. How does the meeting as a practice produce certain power asymmetries, drawing on or subverting power relations prevalent in other practices and structures of the organization? What discourses and interests are empowered and which ones are suppressed by this interaction order? Power relations permeate the accomplishment of practices in organizations and thus are a promising area for future research.

References

Agar, M. 2010. On the Ethnographic Part of the Mix: A Multi-Genre Tale of the Field. ***Organizational Research Methods***, 13(2): 286–303.

Allison, G. 1971. ***Essence of Decision: Explaining the Cuban Missile Crisis***. Boston: Harvard: Harper Collins Publisher.

Anand, G., Gray, J., & Siemsen, E. 2012. Decay, Shock, and Renewal: Operational Routines and Process Entropy in the Pharmaceutical Industry. ***Organization Science***, 23(6): 1700–1716.

Argyris, C. 1976. Single-Loop and Double-Loop Models in Research on Decision Making. ***Administrative Science Quarterly***, 21(3): 363–375.

Argyris, C., & Schön, D. A. 1974. ***Theory in practice: Increasing professional effectiveness***. Oxford, England: Jossey-Bass.

Argyris, C., & Schön, D. A. 1978. ***Organizational Learning***: ***A Theory of Action Perspective***. Don Mills: Addison-Wesley.

Astley, W. G., & Van de Ven, A. H. 1983. Central Perspectives and Debates in Organization Theory. ***Administrative Science Quarterly***, 28(2): 245–273.

Baker, T., & Nelson, R. E. 2005. Creating Something from Nothing: Resource Construction through Entrepreneurial Bricolage. ***Administrative Science Quarterly***, 50(3): 329–366.

Bapuji, H., Hora, M., & Saeed, A. M. 2012. Intentions, Intermediaries, and Interaction: Examining the Emergence of Routines. ***Journal of Management Studies***, 49(8): 1586–1607.

Barad, K. 2003. Posthumanist performativity: toward an understanding of how matter comes to matter. ***Signs: Journal of Women in Culture and Society***, 28(3): 801–831.

Barley, S. R. 1986. Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments. ***Administrative Science Quarterly***, 31(1): 78–108.

Barney, J. B. 1986. Strategic Factor Markets: Expectations, Luck, and Business Strategy. ***Management Science***, 32(10): 1231–1241.

Barney, J. B. 1991. Firm Resources and Sustained Competitive Advantage. ***Journal of Management***, 17(1): 99.

Becker, M. C., & Lazaric, N. (Eds.) 2009. ***Organizational Routines***: ***Advancing Empirical Research***. Cheltenham: Edward Elgar.

Boden, D. 1994. ***The Business of Talk***: ***Organizations in Action***. London: Polity Press.

Bourdieu, P. 1977. ***Outline of a Theory of Practice:*** Cambridge University Press.

Bourdieu, P. 1986. The Forms of Capital. In J. D. Richardson (Ed.), ***Handbook of Theory and Research for the Sociology of Education***: 241–258. New York: Greenwood Press.

Bourdieu, P. 1990. ***The Logic of Practice***. Stanford: Stanford University Press.

Bourdieu, P., & Passeron, J. C. 1977. ***Reproduction in education, society and culture***. London: Sage.

Burrell, G., & Morgan, G. 1979. ***Sociological Paradigms and Organisational Analysis***. England: Ashgate.

Butler, J. 1990. ***Gender Trouble***. London: Routledge.

Callewaert, S. 1999. Philosophy of Education, Critical Theory and the Sociology of Bourdieu. In T. S. Popkewitz & L. Fendler (Eds.), ***Critical Theory in Education***: 117–145. New York: Routledge.

Callon, M. 1986. Some elements of sociology of translation: Domestication of the scallops and the fishermen of St. Brieuc Bay. In J. Law (Ed.), ***Power, action and belief:A new sociology knowledge?***: 196–223. London: Routledge.

Chia, R., & Holt, R. 2006. Strategy as Practical Coping: A Heideggerian Perspective. ***Organization Studies***, 27(5): 635–655.

Cook, S., & Brown, J. S. 1999. Bridging Epistemologies: The Generative Dance between Organizational Knowledge and Organizational Knowing. ***Organization Science***, 10(4): 381–400.
Corradi, G., Gherardi, S., & Verzelloni, L. 2010. Through the practice lens: Where is the bandwagon of practice-based studies heading? ***Management Learning***, 41(3): 265–283.
Cunliffe, A. L. forthcoming. Using Ethnography in Strategy as Practice Research. In D. Golsorkhi, L. Rouleau, D. Seidl & E. Vaara (Eds.), ***Cambridge Handbook of Strategy as Practice*** (2nd ed.). Cambridge: Cambridge University Press.
Cyert, R. M., & March, J. G. 1963. ***A behavioral theory of the firm***. New Jersey, USA: Prentice-Hall Inc.
D'Adderio, L. 2003. Configuring software, reconfiguring memories: the influence of integrated systems on the reproduction of knowledge and routines. ***Industrial and Corporate Change***, 12(2): 321–350.
Davis, G. F. 2005. Firms and environments. In N. J. Smelser & R. Swedberg (Eds.), ***Handbook of Economic Sociology***: 352–390. Princeton, NJ: Princeton University Press.
Davis, G. F., & Marquis, C. 2005. Prospects for Organization Theory in the Early Twenty-First Century: Institutional Fields and Mechanisms. ***Organization Science***, 16: 332–343.
Dionysiou, D., & Tsoukas, H. 2013. Understanding the (Re)creation of Routines from Within: A Symbolic Interactionist Perspective. ***Academy of Management Review***, 38(2): 181–205.
Dosi, G., Faillo, M., & Marengo, L. 2008. Organizational Capabilities, Patterns of Knowledge Accumulation and Governance Structures in Business Firms: An Introduction. ***Organization Studies***, 29(8-9): 1165–1185.
Dosi, G., Nelson, R. R., & Winter, S. G. (Eds.) 2000. ***Nature & Dynamics of Organizational Capabilities***. Oxford: Oxford University Press.
Dreyfus, H. L. 1991. ***Being-in-the-World***. Cambridge, MA: MIT Press.
Dreyfus, H. L. 2000. Responses. In J. Malpas, M. A. Wrathall & H. L. Dreyfus (Eds.), ***Heidegger, Coping and Cognitive Science: Essays in honor of Hubert L. Dreyfus***: 313–349. Cambridge Mass: The MIT Press.
Dreyfus, H. L., & Dreyfus, S. E. 2005. Peripheral Vision: Expertise in Real World Contexts. ***Organization Studies***, 26(5): 779–792.
Edmondson, A. C. 2002. The Local and Variegated Nature of Learning in Organizations. ***Organization Science***, 13(2): 128–146.
Emirbayer, M., & Mische, A. 1998. What Is Agency? ***American Journal of Sociology***, 103(4): 962–1023.
Evered, R., & Louis, M. R. 1981. Alternative Perspectives in the Organizational Sciences: "Inquiry from the inside" and "Inquiry from the outside". ***The Academy of Management Review***, 6(3): 385–395.
Feldman, M. S. 2000. Organizational Routines as a Source of Continuous Change. ***Organization Science***, 11(6): 611–629.
Feldman, M. S. 2004. Resources in Emerging Structures and Processes of Change. ***Organization Science***, 15(3): 295–309.
Feldman, M. S., & Orlikowski, W. J. 2011. Practicing Theory and Theorizing Practice. ***Organization Science***, 22(5): 1240–1253.
Feldman, M. S., & Pentland, B. T. 2003. Reconceptualizing Organizational Routines as a Source of Flexibility and Change. ***Administrative Science Quarterly***, 48(1): 94–118.
Feldman, M. S., & Quick, K. S. 2009. Generating Resources and Energizing Frameworks Through Inclusive Public Management. ***International Public Management Journal***, 12(2): 137–171.
Feldman, M. S., & Worline, M. C. 2011. Resources, Resourcing, and Ampliative Cycles in Organizations. In G. M. Spreitzer & K. S. Cameron (Eds.), ***The Oxford Handbook of Positive Organizational Scholarship***: Oxford University Press.

Foucault, M. 1972. ***The archeology of knowledge.*** trans. AM Sheridan Smith. London: Tavistock.
Geertz, C. 1983. ***Local knowledge***: ***Further essays in interpretive anthropology***. New York: Basic Books.
Gersick, C. J. G. 1988. Time and Transition in Work Teams: Toward a New Model of Group Development. ***Academy of Management Journal***, 31(1): 9–41.
Gherardi, S. 2000. Practice-Based Theorizing on Learning and Knowing in Organizations. ***Organization***, 7(2): 211–223.
Giddens, A. 1976. ***New rules of sociological method***: ***A positive critique of interpretative sociologies*** (1st ed.). Oxford: Polity.
Giddens, A. 1984. ***The constitution of society***: ***Outline of the theory of structuration***. Berkeley: University of California Press.
Gioia, D. A., & Pitre, E. 1990. Multiparadigm Perspectives on Theory Building. ***The Academy of Management Review***, 15(4): 584–602.
Goffman, E. 1982. The Interaction Order. ***American Sociological Review***, 48(1): 1–17.
Goffman, E. 1989. On Fieldwork. ***Journal of Contemporary Ethnography***, 18(2): 123–132.
Habermas, J. 1968. ***Erkenntnis und Interesse***. Frankfurt a.M: Suhrkamp.
Habermas, J. 1984. ***The theory of communicative action***. Boston: Beacon Press.
Hedström, P., & Swedberg, R. 1998. ***Social mechanisms***: ***An analytical approach to social theory***. Cambridge, New York: Cambridge University Press.
Heidegger, M. 1962. ***Being and time.*** trans. J. Macquarrie and E. Robinson: New York: Harper & Row.
Helfat, C. E. 2000. Guest Editor's Introduction to the Special Issue: The Evolution of Firm Capabilities. ***Strategic Management Journal***, 21(10/11): 955–959.
Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J., & Winter, S. G. 2007. ***Dynamic capabilities: Understanding strategic change in organizations***. Malden, MA: Blackwell Publishers Ltd.
Helfat, C. E., & Peteraf, M. A. 2003. The dynamic resource-based view: capability lifecycles. ***Strategic Management Journal***, 24(10): 997–1010.
Howard-Grenville, J. A. 2005. The Persistence of Flexible Organizational Routines: The Role of Agency and Organizational Context. ***Organization Science***, 16(6): 618–636.
Huff, A. S. 1999. ***Writing for scholarly publication***. Thousand Oaks: Sage Publications.
Janich, P. 1989. Determination by Reality or Construction of Reality? In R. E. Butts & J. R. Brown (Eds.), ***Constructivism and Science***: 257–269. Dordrecht: Springer Netherlands.
Jarzabkowski, P. 2003. Strategic Practices: An Activity Theory Perspective on Continuity and Change. ***Journal of Management Studies***, 40(1): 23–55.
Jarzabkowski, P. 2004. Strategy as Practice: Recursiveness, Adaptation, and Practices-in-Use. ***Organization Studies***, 25(4): 529–560.
Jarzabkowski, P. 2008. Shaping strategy as a structuration process. ***Academy of Management Journal***, 51(4): 621–650.
Jarzabkowski, P., Balogun, J., & Seidl, D. 2007. Strategizing: The challenges of a practice perspective. ***Human Relations***, 60(1): 5–27.
Jarzabkowski, P., & Seidl, D. 2008. The Role of Meetings in the Social Practice of Strategy. ***Organization Studies***, 29(11): 1391–1426.
Kaplan, S. 2008. Framing Contests: Strategy Making Under Uncertainty. ***Organization Science***, 19(5): 729–752.
Karakayali, N. 2004. Reading Bourdieu with Adorno: The Limits of Critical Theory and Reflexive Sociology. ***Sociology***, 38(2): 351–368.
Knights, D., & Morgan, G. 1991. Corporate Strategy, Organizations, and Subjectivity: A Critique. ***Organization Studies***, 12(2): 251–273.

Knorr-Cetina, K. 1981. ***The manufacture of knowledge: An essay on the constructivist and contextual nature of science***. New York: Pergamon.
Kor, Y. Y., & Mahoney, J. T. 2004. Edith Penrose's (1959) Contributions to the Resource-based View of Strategic Management. ***Journal of Management Studies***, 41(1): 183–191.
Latour, B. 1987. ***Science in action***: ***How to follow scientists and engineers through society***. Cambridge, Mass: Harvard University Press.
Levina, N., & Orlikowski, W. J. 2009. Understanding shifting power relations within and across organizations: A critical genre analysis. ***Academy of Management***, 52(4): 672–703.
Llewellyn, N., & Spence, L. 2009. Practice as a Members' Phenomenon. ***Organization Studies***, 30(12): 1419–1439.
Locke, K. 2011. Field Research Practice in Management and Organization Studies: Reclaiming its Tradition of Discovery. ***Academy of Management Annals***, 5(1): 613–652.
Lorenzen, P. 1987. ***Constructive Philosophy***. Amherst: University of Massachusetts Press.
Lueken, G.-L. 1992. ***Inkommensurabilität als Problem rationalen Argumentierens***. Stuttgart-Bad Cannstatt: Fromann-Holzboog.
Mantere, S., & Vaara, E. 2008. On the Problem of Participation in Strategy: A Critical Discursive Perspective. ***Organization Science***, 19(2): 341–358.
March, J. G., & Simon, H. A. 1958. ***Organizations*** (23rd ed.). New York NY: Wiley.
Miettinen, R., Samra-Fredericks, D., & Yanow, D. 2010. Re-Turn to Practice: An Introductory Essay. ***Organization Studies***, 30(12): 1309–1327.
Mueller, F., Whittle, A., Gilchrist, A., & Lenney, P. 2013. Politics and strategy practice: An ethnomethodologically-informed discourse analysis perspective. ***Business History***, 55(7): 1168–1199.
Nicolini, D. 2009. Zooming In and Out: Studying Practices by Switching Theoretical Lenses and Trailing Connections. ***Organization Studies***, 30(12): 1391–1418.
Nicolini, D. 2013. ***Practice Theory, Work and Organization. An Introduction.*** Oxford, England: Oxford University Press.
Nonaka, I. 1994. A Dynamic Theory of Organizational Knowledge Creation. ***Organization Science***, 5(1): 14–37.
Nonaka, I., & Takeuchi, H. 1995. ***The knowledge-creating company***: ***How Japanese companies create the dynamics of innovation***. New York NY: Oxford University Press.
Orlikowski, W. J. 1992. The Duality of Technology: Rethinking the Concept of Technology in Organizations. ***Organization Science***, 3(3): 398–427.
Orlikowski, W. J. 2000. Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations. ***Organization Science***, 11(4): 404–428.
Orlikowski, W. J. 2007. Sociomaterial Practices: Exploring Technology at Work. ***Organization Studies***, 28(9): 1435–1448.
Orlikowski, W. J. 2010. Practice in research: phenomenon, perspective and philosophy. In D. Golsorkhi, L. Rouleau, D. Seidl & E. Vaara (Eds.), ***Cambridge Handbook of Strategy as Practice***: 23–33. Cambridge: Cambridge University Press.
Orlikowski, W. J., & Scott, S. V. 2008. Sociomateriality: Challenging the Separation of Technology, Work and Organization. ***Academy of Management Annals***, 2(1): 433–474.
Ortner, S. B. 1984. Theory in Anthropology since the Sixties. ***Comparative Studies in Society and History***, 26(1): 126–166.
Parmigiani, A., & Howard-Grenville, J. 2011. Routines Revisited: Exploring the Capabilities and Practice Perspectives. ***Academy of Management Annals***, 5(1): 413–453.
Penrose, E. 1959. ***The theory of the growth of the firm***. New York: Wiley.
Peteraf, M. A. 1993. The cornerstones of competitive advantage: A resource-based view. ***Strategic Management Journal***, 14(3): 179–191.
Pfeffer, J., & Salancik, G. R. 1978. ***The external control of organizations***: ***A resource dependence perspective***. New York: Harper and Row.

Pickering, A. 1992. ***Science as practice and culture***. Chicago: University of Chicago Press.
Pickering, A. 1995. ***The mangle of practice***: ***Time, agency, and science***. Chicago: University of Chicago Press.
Pitelis, C. N. (Ed.) 2002. ***The growth of the firm: The legacy of Edith Penrose***. New York.
Polanyi, M. 1962. ***Personal knowledge***. New York: Doubleday.
Polanyi, M. 1966. ***The tacit dimension***. New York: Doubleday.
Pratt, M. G. 2009. For lack of a boilerplate: tipps for writing up (and reviewing) qualitative work. ***Academy of Management Journal***, 52(5): 856–862.
Putnam, L. L., Bantz, C., Deetz, S., Mumby, D., & van Maanan, J. 1993. Ethnography versus Critical Theory: Debating Organizational Research. ***Journal of Management Inquiry***, 2(3): 221–235.
Rasche, A., & Chia, R. 2009. Researching Strategy Practices A Genealogical Social Theory Perspective. ***Organization Studies***, 30(7): 713–734.
Reckwitz, A. 2002. Toward a Theory of Social Practices: A Development in Culturalist Theorizing. ***European Journal of Social Theory***, 5(2): 243–263.
Reckwitz, A. 2003. Grundelemente einer Theorie sozialer Praktiken. Eine sozialtheoretische Perspektive. ***Zeitschrift für Soziologie***, 32(4): 282.
Sandberg, J., & Dall'Alba, G. 2009. Returning to Practice Anew: A Life-World Perspective. ***Organization Studies***, 30(12): 1349–1368.
Sandberg, J., & Holt, R. 2011. Phenomenology and organization theory. In H. Tsoukas & R. Chia (Eds.), ***Philosophy and organization theory***: 215–249. Bingley: Emerald.
Sandberg, J., & Tsoukas, H. 2011. Grasping the Logic of Practice: Theorizing through Practical Rationality. ***Academy of Management Review***, 36(2): 338–360.
Schatzki, T. R. forthcoming. Practice Theory as Flat Ontology. In H. Schaefer (Ed.), ***Praxistheorie. Ein Forschungsprogramm***. Bielefeld.
Schatzki, T. R. 1996. ***Social practices***: ***A Wittgensteinian approach to human activity and the social***. Cambridge etc: Cambridge University Press.
Schatzki, T. R. 2005. Peripheral Vision: The Sites of Organizations. ***Organization Studies***, 26(3): 465–484.
Schatzki, T. R. 2006. On Organizations as they Happen. ***Organization Studies***, 27(12): 1863–1873.
Schatzki, T. R. 2011. ***Where the Action Is: On Large Social Phenomena Such as Sociotechnical Regimes***. Sustainable Practices Research Group, UK.
Schatzki, T. R., Knorr-Cetina, K. D., & Savigny, E. von (Eds.) 2001. ***The practice turn in contemporary theory***. London: Routledge.
Scherer, A. G. 1998. Pluralism and Incommensurability in Strategic Management and Organization Theory: A Problem in Search of a Solution. ***Organization***, 5(2): 147–168.
Scherer, A. G. 2003. Modes of Explanation in Organization Theory. In H. Tsoukas (Ed.), ***The Oxford handbook of organization theory***: 310–344. Oxford: Oxford University Press.
Scherer, A. G. 2006. Kritik der Organisation oder Organisation der Kritik? Wissenschaftstheoretische Bemerkungen zum kritischen Umgang mit Organisationstheorien. In A. Kieser & M. Ebers (Eds.), ***Organisationstheorien***: 19–61 (6th ed.). Stuttgart: Kohlhammer.
Scherer, A. G. 2009. Critical Theory and its Contribution to Critical Management Studies. In M. Alvesson, H. Willmott & T. Bridgman (Eds.), ***The Oxford Handbook of Critical Management Studies***: 29–51. Oxford: Oxford University Press.
Scherer, A. G., & Dowling, M. J. 1995. Towards a Reconciliation of the Theory Pluralism in Strategic Management: Incommensurability and the Constructivist Approach of the Erlangen School. In P. Shrivastava & C. Stubbart (Eds.), ***Advances in Strategic Management***. Greenwich, CT.

Scherer, A. G., & Steinmann, H. 1999. Some Remarks on the Problem of Incommensurability in Organization Studies. ***Organization Studies***, 20(3): 519–544.
Schön, D. A. 1983. ***The Reflective Practitioner***. New York: Basic Books.
Schwartzman, H. B. 1989. ***The meeting***: ***Gatherings in organizations and communities***. New York: Plenum Press.
Seidl, D., & Whittington, R. 2014. Enlarging the Strategy-as-Practice Research Agenda: Towards Taller and Flatter Ontologies. ***Organization Studies***.
Sewell, W. H. 1992. A Theory of Structure: Duality, Agency, and Transformation. ***American Journal of Sociology***, 98(1): 1–29.
Sonenshein, S. 2013. How Organizations Foster the Creative Use of Resources. ***Academy of Management Journal***.
Spender, J.-C. 1994. Organizational knowledge, collective practice and Penrose rents. ***International Business Review***, 3(4): 353–367.
Spender, J.-C. 1996a. Making knowledge the basis of a dynamic theory of the firm. ***Strategic Management Journal***, 17(S2): 45–62.
Spender, J.-C. 1996b. Organizational knowledge, learning and memory: three concepts in search of a theory. ***Journal of Organizational Change Management***, 9(1): 63–78.
Stengers, I. 1997. ***Power and invention***: ***Situating science***. Minneapolis: University of Minnesota Press.
Suchman, L. A. 2007. ***Human-machine reconfigurations***: ***Plans and situated actions*** (2nd ed.). Cambridge, New York: Cambridge University Press.
Teece, D. J. 2007. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. ***Strategic Management Journal***, 28(13): 1319–1350.
Teece, D. J., Pisano, G., & Shuen, A. 1997. Dynamic capabilities and strategic management. ***Strategic Management Journal***, 18(7): 509–533.
Tsoukas, H. 2010. Practice, strategy making and intentionality: a Heideggerian onto-epistemology for Strategy as Practice. In D. Golsorkhi, L. Rouleau, D. Seidl & E. Vaara (Eds.), ***Cambridge Handbook of Strategy as Practice***: 47–62. Cambridge: Cambridge University Press.
van Maanen, J. 1988. ***Tales of the field***: ***On writing ethnography***. Chicago: University of Chicago Press.
van Maanen, J., Sørensen, J. B., & Mitchell, T. R. 2007. Introduction to Special Topic Forum: The Interplay between Theory and Method. ***The Academy of Management Review***, 32(4): 1145–1154.
Wacquant, L. 2004. Following Pierre Bourdieu into the field. ***Ethnography***, 5(4): 387–414.
Whittington, R. 2006. Completing the Practice Turn in Strategy Research. ***Organization Studies***, 27(5): 613–634.
Willmott, H. 2003. Organization theory as critical science? Forms of analysis and new organizational forms. In H. Tsoukas (Ed.), ***The Oxford handbook of organization theory***. Oxford: Oxford University Press.
Winter, S. G. 2003. Understanding dynamic capabilities. ***Strategic Management Journal***, 24(10): 991–995.
Yanow, D. 2012. Organizational ethnography between toolbox and world-making. ***Journal of Organizational Ethnography***, 1(1): 31–42.
Yanow, D., & Tsoukas, H. 2009. What is Reflection-In-Action? A Phenomenological Account. ***Journal of Management Studies***, 46(8): 1339–1364.
Ybema, S., Yanow, D., Wels, H., & Kamsteeg, F. H. 2009. ***Organizational ethnography***: ***Studying the complexities of everyday life***. Los Angeles: Sage.

2 A Practice-Theoretical Perspective on the Role of Talk in Routine Change

Katharina Dittrich, Stéphane Guérard, David Seidl

Abstract

Over the last decade, researchers have fruitfully drawn on practice theory and mobilized a number of conceptual resources in order to study various mechanisms that underlie routine dynamics. Nevertheless, to date few researchers in this field have paid any attention to the role of naturally occurring talk. This is surprising, considering that the pervasiveness of talk is widely documented in existing studies on routines and that talk features prominently as a subject in most streams of practice theory. This paper sets out to address this apparent gap. Based on a one-year ethnographic study of a start-up company operating in the pharmaceutical industry, we examine how actors use talk to influence routine change. Building on Heidegger's practice theory, we distinguish three different modes of talk related to routines; namely, *enacting talk* (talk as an integral part of routine enactment), *situated reflective talk* (talk *about* particular aspects of a specific performance), and *distanced reflective talk* (talk about the abstract pattern and general properties of a routine), and show that actors use them in different ways to bring about and affect different types of routine change. Tracing the use of talk over time, we develop a processual model that theorizes how switching between modes of talk enables and constrains actors in the way they use talk in the context of routine change, and, in particular, how combining different modes of talk sequentially allows actors to overcome the challenges posed by fundamental routine change.

Keywords

Organizational routines; naturally occurring talk; practice perspective; Heideggerian perspective; routine change

This paper has been submitted to the Special Issue of Organization Science on "Routine Dynamics: Exploring Sources of Stability and Change in Organizations".

2.1 Introduction

Over the last decade, research on organizational routines, defined as "repetitive patterns of interdependent organizational actions" (Parmigiani & Howard-Grenville, 2011: 414), has proliferated, and scholars from different backgrounds have applied different theoretical lenses to study routines. The two most prominent approaches to organizational routines are the 'capability' and the 'practice' perspective, the former emphasizing the purpose of routines and their impact on firm performance and the latter emphasizing their internal dynamics (Parmigiani & Howard-Grenville, 2011). In this paper, we apply a practice-theoretical lens to investigate how routines are reproduced and changed when they are enacted .

From this perspective, routines are conceptualized as consisting of two recursively related aspects: on the one hand, an ostensive aspect, defined as "the abstract, generalized idea of the routine," and on the other hand, a performative aspect, defined as the "specific actions [taken] by specific people, in specific times and places" (Feldman & Pentland, 2003: 101). The stream of research that has emerged around the practice-based perspective examines extensively the different elements and mechanisms involved in routine change; nevertheless, to date researchers have paid hardly any attention to the role that talk—that is, oral communication between actors—plays in the process of routine change. This is particularly surprising, considering that several practice theorists have emphasized talk, or communication more generally, as an important aspect of practice: Giddens (1984: 73), for example, stressed that "encounters are sustained above all through talk, through everyday conversation," and Heidegger (1962) described language usage as a crucial tool for pointing out aspects of a shared world (Dreyfus, 1991: 221). Wittgenstein (1953) even placed the use of language at the heart of his practice theory, developing the concept of "language games." Similarly, Foucault (1972) based his practice theory on the concept of discourse and discursive practices. In practice theory, talk and everyday conversations are thereby typically treated as distinct activities in practices and language as a tool for taking action (Dreyfus, 1991; Schatzki, Knorr-Cetina, & Savigny, 2001).

The lack of systematic research on the role of talk in routine dynamics is surprising also because many empirical studies on routines document the pervasiveness of talk. Some studies describe talk that is part of performing a routine, i.e., part of the performative aspect. Feldman (2000: 612), for example, describes interviews with potential candidates for a job as part of enacting the hiring routine. Other studies provide accounts of talk that relate to the *ostensive* aspect of routines: these studies portray the more abstract, generalized descriptions of a routine that are typically part of conversations that people have *about* a routine. Feldman

(2003: 730), for example, describes how supervisors arranged a series of meetings in which they talked about the problems of implementing envisioned changes to a budgeting routine. It is evident that in these two cases talk was used very differently and one can assume that it also affected routine change in different ways.

Against this backdrop, the research question that the present paper focuses on is how actors use talk to influence routine change. To answer this question we use data from a one-year ethnographic study of CellCo[i], a start-up company in the pharmaceutical industry (see also chapter 3 of this thesis for a different analysis). During our research, we traced the development of CellCo's shipping routine, which was generally considered of central importance to the firm's operation. In line with other in-depth studies of routines in a single organization (Howard-Grenville, 2005; Pentland & Rueter, 1994), we closely examined numerous performances of the selected routine, which allowed us to identify different ways in which the actors involved used talk to affect routine change. To capture various kinds of change, we applied a broad definition of "routine change," which includes both exogenous and endogenous, as well as deliberative and emergent change (see, e.g., Turner & Rindova, 2012).

To formulate our key concepts, we build on the practice theory of Martin Heidegger, particularly as interpreted by Dreyfus (1991; 2000) and as variously applied in organization research (see, e.g., Chia & Holt, 2006; Dreyfus & Dreyfus, 2005; Sandberg & Dall'Alba, 2009; Tsoukas, 2010; Weick, 2003; Yanow & Tsoukas, 2009). We selected this approach because it allows us to address explicitly how talk relates to nonverbal action and to the practice of which it is an element. Applying Heidegger's concepts to our context, we distinguish three distinct modes of talk, according to how actors use talk in relation to a specific routine: (1) *enacting talk*: actors use talk as an integral part of enacting a routine, (2) *situated reflective talk*: actors use talk propositionally to point out particular aspects of a specific performance of a routine, and (3) *distanced reflective talk*: actors use talk to refer to the general properties and abstract pattern of a routine. To ground these concepts empirically, we applied certain analytical concepts from Ethnomethodology and conversation analysis (Llewellyn & Spence, 2009; Samra-Fredericks & Bargiela-Chiappini, 2008) in order to identify how a routine is referred to within talk.

On the basis of this conceptual distinction, we analyzed how the actors we observed used these three modes of talk to influence routine change. We found that in the *enacting* mode the actors did not use talk to initiate, affect or retrospectively acknowledge routine change, even though we recognize that *nonverbal* actions might change the performance of

the routine. In contrast, we noted that in the *situated reflective* mode the actors used talk to adapt a specific performance, while in the *distanced reflective* mode, they used talk to propose and potentially agree on more fundamental changes to the focal routine's pattern. In this mode, the actors also used talk to link the routine to issues unrelated to its performance and to involve people who had no part in the enactment of that routine; in this way, talk opened the routine to external interests and politics.

Tracing the usage of these three modes of talk over time, we identified triggers and conditions for switching between different modes of talk. We also found that distanced reflective and situated reflective talk were often combined sequentially, allowing the actors to overcome the challenges of fundamental routine change: on the one hand, actors need to discuss the routine's abstract pattern independently of specific performances, while on the other hand the envisioned changes have to be recontextualized in individual performances. We bring all of these insights together in a processual model of talk-induced routine change.

With this paper we make three contributions to the literature. First, we introduce to the theory of routine dynamics talk as a distinct element of routines and we differentiate between three modes of talk that are used differently in routine change. More specifically, we extend the existing evolutionary model of routine change (Feldman & Pentland, 2003) by theorizing talk as a means that actors use to generate and select variations in routines. While we recognize that actors not only use talk, but also *nonverbal* actions to change routines, our theoretical model delineates *how* actors' use of talk interacts with these other actions and how they use it to generate and/ or select actions that change routines. Second, our analysis of the ways in which talk relates to routines implies a different understanding of the relation between the ostensive and performative aspects in routine change. While the literature to date treats the performative aspect as driving change by generating variations (Feldman & Pentland, 2003), we show that routine change can also be induced through the ostensive aspect. Third, our findings have implications for the ways in which routine embeddedness is conceptualized: in contrast to the existing literature, which treats embeddedness as a stable characteristic of routines (Howard-Grenville, 2005), our findings show how the embeddedness of routines is created, maintained and modified, at least in part, through talk.

The remainder of this paper is structured as follows: in the next section, we will begin with a brief review of how the practice-based literature on routines treats talk and we will introduce our Heideggerian perspective on different modes of talk. Our next step will be to describe our research setting and methodology. In the following section, we will go on to describe how actors use different modes of talk to affect routine change (first-order findings);

we will also discuss how the different modes of talk relate over time (second-order findings) and develop our practice-theoretical model of the role of talk in routine change. We will conclude our paper with a discussion of our findings in the context of the existing literature on routines and with an account of the limitations of our study and of opportunities for future research.

2.2 Practice-Based Literature on Routines and Talk

2.2.1 A Practice-Theory Perspective on Routine Change

Since the classic works of Cyert and March (1963) and Nelson and Winter (1982) were published, organizational routines, defined as repetitive, recognizable patterns of interdependent actions (Feldman & Pentland, 2003: 95), have been studied from many different theoretical perspectives (Parmigiani & Howard-Grenville, 2011). Initially routines were strongly associated with stability; the sources of change were considered to lie outside routines (e.g., Gersick & Hackman, 1990; Orlikowski, 1992). More recent research that adopts a practice-theoretical lens (Feldman & Orlikowski, 2011) has challenged the traditional view of routines as stable phenomena by pointing out the dynamics that result from the interplay between a routine's ostensive aspect (i.e., the routine's abstract, generalized pattern) and its performative aspect (i.e., the specific actions taken to perform the routine) (Feldman & Pentland, 2003: 101).

Several researchers have elaborated on the interplay between the ostensive and performative aspects, showing that the ostensive aspect is created in a process of "abstracting" the general pattern from specific performances of the routine (Feldman & Pentland, 2008). Depending on the extent to which they participate in specific performances and on their points of view, actors may even recognize different patterns in a set of performances (Dionysiou & Tsoukas, 2013), resulting in multiple ostensive aspects (Feldman & Pentland, 2003: 104). Actors use the ostensive aspect in three ways: (1) to guide their actions in a specific performance, (2) to account for earlier actions, and (3) to refer to the similarities within a set of performances. By performing the routine, actors in turn inadvertently contribute to (1) creating, (2) maintaining and (3) modifying the ostensive aspect; even when they merely aim to complete a particular task (Feldman & Pentland, 2003).

Routine change is understood as a potential outcome of the interplay between the ostensive and performative aspects. Feldman and Pentland (2003) suggest theorizing routine change as an evolutionary process of variation, selection and retention that takes place in this

interaction. While performing a routine, people intentionally or unintentionally produce *variations*; that is, actions that diverge from the established pattern. Among these variations, some may be subsequently *selected*, that is interpreted as part of the ostensive aspect. The selected variations are retained in the pattern of the routine, which is modified as a result.

Most works in the practice-based tradition distinguish between two types of routine change (Howard-Grenville, 2005). The first type concerns temporary variations in which actors perform the routine flexibly; that is adapt it to a specific situation. Such variations in performance arise when actors have different or multiple goals in performing the routine or orient their actions to the present, adapting the routine pragmatically to the situation at hand (Howard-Grenville, 2005). Actors who have more experience in performing the routine are more likely to introduce such variations (Turner & Fern, 2012). The second type of change concerns modifications of the ostensive aspect that change the routine more permanently over time. Such changes occur when performances of a routine fall short of ideals or when, in response to new opportunities, actors start reflecting on what they are doing and conceive new courses of action (Feldman, 2000). A routine may also change when actors, being oriented towards the future, envisage new patterns of action (Howard-Grenville, 2005), when truces break down and are renegotiated (Zbaracki & Bergen, 2010) or when organizational interpretive schemas change (Rerup & Feldman, 2011). Both temporary variations and more enduring changes of the ostensive aspect are facilitated by connections among the participants in a routine (Turner & Rindova, 2012).

A number of previous studies have also identified various conditions that impede lasting routine change, in the sense that they slow down or prevent changes of the ostensive aspect wholly or partly. (Feldman, 2003) observed that routines do not change when envisioned changes are inconsistent with the way in which actors perceive the organization; (Howard-Grenville, 2005) suggests that lasting routine change is less likely when routines are strongly embedded in broader organizational structures, and (Lazaric & Denis, 2005) observed that routines are slow to change when there are inadequate incentives for actors. (Pentland & Feldman, 2008a) argue that routines do not change when managers design artifacts, such as workflows, that are disconnected from the actual performances of that routine. Finally, (Turner & Rindova, 2012) found that routines do not change when there is pressure for consistency by other routine participants, while D'Adderio (2003) noted a similar effect when behavior is encoded in artifacts. Together these studies indicate that there are some thresholds to be passed before actors' flexible performances can take hold in the ostensive aspect of the routine and thus affect future performances.

2.2.2 Treatment of Talk in the Routines Literature

Our detailed review of the literature on routines revealed that talk is pervasive, both in relation to the performative and the ostensive aspect (see Table 3). In the case of the performative aspect, many studies describe talk as an integral part of the way in which a routine is enacted: for example, interviewing candidates is part of the hiring routine (Feldman, 2000), talk in the operating room is part of the cardiac surgery routine (Edmondson, Bohmer, & Pisano, 2001), and meetings with customers and between marketing and sales staff is part of the pricing routine (Zbaracki & Bergen, 2010). Clearly, there are variations in the degree to which the enactment of a routine depends on verbal actions; however, there is almost no routine that does not involve at least some degree of talk in its enactment. Many of the same studies include descriptions of talk about the ostensive aspect of routines, particularly in connection with the generation (e.g., Rerup & Feldman, 2011), disruption (Zbaracki & Bergen, 2010) and change of routines (e.g., Obstfeld, 2012). In these instances, talk is not part of the routine enactment but *about* the routine. For example, Rerup and Feldman (2011) have described the discussions that senior managers had about a new recruiting routine; similarly, Lazaric and Denis (2005: 882) have given an account of "collective discussions" about the implementation of a new quality management system. In the same vein, Turner and Rindova (2012: 12) have shown that explicit communication allowed the crew members of a waste collection team to establish a "naturally flowing action sequence" in their routine.

Even though these studies do not focus on the role of talk in routine dynamics, they indicate at least three ways in which talk may be directly or indirectly involved in routine change. First, as Feldman and Rafaeli (2002: 315), point out, "repeated verbal and non-verbal communication" allows routine participants "to create shared understandings" about the different aspects of a routine. Similarly, Howard-Grenville (2005) has shown that talk is involved in the negotiation of collective orientations towards how a routine should be performed, and Feldman (2003) has argued that talk contributes to the development of common understandings among participants by signaling the significance of specific actions. Second, a number of scholars have emphasized that talk contributes to the articulation of knowledge and learning in routines. Obstfeld (2012: 1578), for example, observed that in routine performances the articulation of knowledge focuses on minor contingencies, whereas in creative projects it involves in-depth reflection and making knowledge persuasive. Similarly, Feldman (2000) has pointed out that the use of metaphors, analogies and models fosters learning in routines, while Edmondson and her colleagues (2001) described how

Table 3: Literature Review of Talk in Practice-Based Studies on Organizational Routines

Author, year	Research question	Talk as part of the performative aspects of routines	Talk about the ostensive aspect of routines	Influence of talk on routine change
Feldman (2000)	Why do routines change even though they should be stable? How do they change?	The hiring routine involves interviewing (p. 612); the moving-out routine involves discussions between staff members and students about damages to the room before the students move out (p. 617); the moving-in routine involves communication with the athletics department to avoid scheduling conflicts (p. 618).	n/a	Talk is involved in learning in routines: the use of metaphor, analogy and models helps make tacit knowledge explicit (p. 625).
Edmondson et al. (2001)	How are new routines developed when existing routines are reinforced through the technological and organizational context?	The new routine required much more communication than the old one (p. 691). "Everyone communicates. There is a lot of information" (p. 700). In teams where members felt comfortable about speaking up, communication was intensive. In teams where members felt uncomfortable about speaking up, individuals chose carefully when and to whom to speak.	In teams where the new technology implementation was successful, the team leaders communicated the rationale for change and the importance of the team for achieving the change (p. 697). Before the first case, the team "had a couple of talks [...] and the night before [they] walked through the process step by step." The surgeon "gave a talk about [...] the kind of communication he wanted in the OR."	Discussions in teams led to significant changes of the new routine: "How team leaders framed the technology and communicated with the team contributed to a particular kind of learning experience" (p. 707). "Reflective teams explicitly asked themselves, through formal meeting, informal conversation, and shared review of relevant data, 'What are we learning? What can we do better?'" (p. 705).
Feldman and Rafaeli (2002)	How do connections between actors contribute to routine stability and change?	Connections between routine participants involve talk; e.g., the hiring routine establishes connections when the office assistant calls the accountant, or actors meet to decide about an employment ad.	n/a	"Organizational routines place organizational participants in a position to have repeated verbal and nonverbal communication with one another" (p. 315). This communication helps create shared understandings.
Feldman (2003)	Why did the budgeting routine not change as envisioned?	The budgeting routine involves a lot of talk, such as meetings "to discuss which projects can be funded" and "informal discussions" (p. 733).	The supervisors engaged in "a series of meetings [...] to try to understand why the change was not taking place and how to bring it about" (p. 730). In these meetings, the supervisors articulated their vision of the organization and how the proposed budgeting routine should both represent and enact the new vision.	Communication contributes to the understanding of the organization, which in turn influences routine enactment. "Communication both draws attention to the performances, increasing their significance, and also indicates [that] the performances are seen as sufficiently significant to be talked about" (p. 748).
Howard-Grenville (2005)	How do agency and context influence the persistence and change of routines?	The roadmapping routine at ChipCo involved numerous meetings of relevant authorities that were responsible for making decisions about manufacturing changes. The discussion involved not only these decisions, but also the ambiguities a new group encountered while enacting the routine and how the routine might be put to a new use, i.e., creating a roadmap for water (pp. 624, 625).	n/a	Through talk, the routine participants negotiated their collective orientation towards the routine, i.e., whether the routine should be enacted as it had been in the past, be adapted pragmatically to the present or adapted projectively to the future. "The collective, not merely individual, orientations [towards the use of the routine] are consequential" (p. 627).
Lazaric and Denis (2005)	What are the cognitive and motivational dimensions of routine change during ISO implementation?	Changing routines at the workshop required more communication and interaction between groups of workers (p. 885). It also changed the information flow within the workshop (p. 879).	The management team "summoned each team in turn and explained the role of the new procedures, why they were implemented and why it was important for employees to record their actions" (p. 886). In collective discussions, workers explained "their vision of quality" and shared their knowledge (p. 889).	n/a
Hales and Tidd (2009)	What is the role of formal representations of routines compared to non-formal representations?	The routine of product development involved many discussions and formal and informal meetings. The participants structured their work on the basis of specific strands of their discussions and negotiations; e.g., "stories" about the courses of action they were engaged in.	n/a	Everyday speech was theorized as a form of non-formal representation of the routine. Artifacts, in particular visual representations, were "sites for the production of spoken representations" (p. 560). They "afford 'speakables'—things to speak about and occasions for storytelling—and provide landmarks and mutual orientation as work

				proceeds" (p. 567).
Zbaracki and Bergen (2010)	How are truces in routines maintained and renegotiated?	The pricing routine involved substantial talk, such as "the sales force [negotiating] with customers for discounts off the list price for each product" (p. 958) and "pricing meetings" between marketing and sales (p. 959).	A major change in prices disrupted the ongoing performance of the pricing routine and resulted in open disputes about fundamental differences in meaning, i.e., the meaning of "price, competitor, product and customer" (p. 965). After the vice president's decision, the truce was resumed and everybody went back to work.	n/a
Brown and Lewis (2011)	How are lawyers' identities constructed through talk about time-keeping and billing routines?	The time-keeping routine involved discussions with the supervisor about why the lawyer spent time on specific tasks.	There was a substantial amount of talk about the abstract pattern of the routine: e.g., "I've banged on about it for a long time—if it takes you 5 hours to write a one paragraph letter, record the 5 hours. (Head of Tax, Trusts and Wills)." In talk the time-keeping routine was frequently linked to discipline.	Talk about the routine's pattern had a disciplinary function, linking routines and their outcomes to organizational norms and goals, professional criteria, productivity and efficiency. Talk about individual performances reinterpreted routine activities as either practical or useful for impression management. The discursive participation of individuals constructed different identities.
Turner and Rindova (2012)	How do routine participants balance pressures for consistency in the face of ongoing change?	The waste collection routine involves "field employees [talking] about the focal task, unexpected incidents, and observations of customer behaviors" (p. 7). In the morning, "formal or informal organizing meetings are held among managers [...] and field employees" (p. 6).	A series of explicit agreements allowed crew members to perform routine activities as a "naturally flowing action sequence" (p. 12). To redesign routines, managers involved crew members to get their input; e.g., a core team of five people would discuss what was needed to make necessary changes.	The authors do not explicitly address talk or communication, but focus on connections among actors: "Connections [help] coalesce these sequences into well-understood and agreed upon action flows." Furthermore, they "facilitate change by enabling members to leverage common understandings, shared experiences, and interpersonal rapport" (p. 17).
Rerup and Feldman (2011)	How are organizational schemata and routines related? What is the role of trial-and-error learning?	The recruiting routine involved talk, such as conducting interviews, negotiating contracts, welcoming new employees and giving them a tour, and scheduling a follow-up meeting to make sure all practical matters were in order.	In a three-hour board meeting with all employees, senior managers envisioned the recruiting routine and linked it to their vision of the organization. The participants "discussed the need to standardize and professionalize [the company's] work flow, helping to clarify changes in the ostensive aspect of the recruiting routine" (p. 582).	n/a
Labatut, Aggeri, and Girard (2011)	What is the interplay between the disciplinary effects of technologies and performances in routine change?	n/a	Talk about the new routine of breeding sheep articulated conflicts between the aesthetic criteria used in traditional breeding and the new genetic criteria. Talk also linked changes in performing the routine to changes in "broader institutional beliefs and espoused values" (p. 60), such as a maximizing profit compared to maximizing productivity.	"Discourses on the managerial philosophy accompany the technology diffusion and participate in building general understandings on how the technology should be used and what its correlated routine should be" (p. 56). "Managerial discourses and technologies are part of orientation to patterns" (p. 63).
Obstfeld (2012)	How can organizational routines and creative projects be compared?	"AllCar work involved continual communication [...] about the execution of the routine and dealing with minor contingencies" (p. 1579). "The [prototype part purchasing] routine always exhibited a modest level of knowledge articulation inherent in the coordination [and] involved constant talk concerned with keeping and getting work back on track" (p. 1579).	During a three-day retreat to redesign the prototype part purchasing (PPP) routine, participants clearly articulated the ostensive pattern of the routine and identified various problems. During further meetings, "the group evaluated the PPP routine, its problems, and the potential of remaking the routine" (p. 1582). A key person in the routine, Craig, "emerged as a metaphor" (p. 1584) for the solution the team envisioned.	While in the PPP routine knowledge articulation focused on minor contingencies, in creative projects it involved in-depth reflection and was used "to make that knowledge persuasive in order to enlist support for the effort at hand" (p. 1584). Knowledge articulation thus differed in the use of "analogies, metaphors, stories, slogans" (p. 1577).

Note: We used the literature review by Parmigiani and Howard-Grenville (2011) as the basis for our own review. Extending their search for relevant papers, we searched the journals included in their review (*AMJ*, *ASQ*, *Mgmt Science*, *Org Science*, *SMJ*, *Ind. & Corp. Change*, *JMS*, *Org Studies & SO*), covering the years 2011 to 2013. Because some papers did not refer to or provide examples of naturally occurring talk, we did not include them in Table 3 (Bapuji, Hora, & Saeed, 2012; Cacciatori, 2012; D'Adderio, 2003; Reynaud, 2005; Turner & Fern, 2012). We decided to include Feldman and Rafaeli (2002) because the article explicitly refers to the role of verbal communication in routines. Even though the work by Edmondson et. al. (2001) does not follow the practice perspective, we decided to include it in any case because it touched on the role of talk in empirical settings.

surgery teams learn by reflecting on their experiences collectively, on the group level. Third, talk has often been described as a mechanism that allows speakers to link artifacts (Hales & Tidd, 2009), broader institutions (Labatut et al., 2011), organizational goals and norms, and professional criteria (Brown & Lewis, 2011) to routines, thereby potentially contributing to how routines change. Overall, although the existing literature underlines the relevance of talk to routine change, few works focus on this subject as such. Furthermore, the practice-theoretical perspective on routines also seems to lack an appropriate conceptual vocabulary for addressing the relationship between talk and routine change. In the next section, we introduce and elaborate on a theoretical perspective that addresses this issue.

2.2.3 A Practice-Theory Perspective on Talk

Addressing the issue of talk as a specific form of communication between actors, i.e., verbal communication, naturally implies that a number of theoretical perspectives could be applied to analyze the role of talk in routine change. Since the linguistic turn in the social sciences (e.g., Rorty, 1967; van Dijk, 1997), various discursive theories and perspectives have emerged and been applied to study different social and organizational phenomena (e.g., Alvesson & Kärreman, 2000; Vaara, 2010). Theories of language use can be found in pragmatic linguistics (e.g., Austin, 1962; Searle, 1969, 1979), in critical studies (e.g., Bakthin, 1981, 1988; Fairclough, 1992; Habermas, 1990), communication studies (e.g., Cooren, 2000; Taylor & van Every, 2000), discourse studies (e.g., Grant, Hardy, Oswick, & Putnam, 2004; Phillips & Hardy, 2002; for a good overview of organizational discourse versus organizational communication studies see Jian, Schmisseur, & Fairhurst, 2008) and practice-based studies (e.g., Foucault, 1972; Heidegger, 1962; Wittgenstein, 1953).

We considered the ontological and epistemological foundations of a variety of different theories in order to make an informed choice of the approach we take. Because the theory of routine dynamics is based on a practice ontology, i.e., the assumptions that organizations are bundles of practices (Feldman & Orlikowski, 2011), we felt that theories based on a different ontology were not compatible with the theory of routine dynamics. For example, the communication-as-constitutive (CCO) perspective and the Montreal School of Communication assumes that "organization emerges in communication (and nowhere else)" (Taylor & van Every, 2000: 4) and studies everything as communicational events, ranging from "people interacting with each other (in meetings, activities, or informal conversations), [...to] talk, discourse, artifact, metaphor, architectural element, body, text or narrative" (Cooren, Kuhn, Cornelissen, & Clark, 2011: 1151). In turn, discourse theories assume that

"things that make up the social world—including our very identities—appear out of discourse" and that "without discourse there is no social reality" (Phillips & Hardy, 2002: 2). Discourse analysis scholars often embrace a strong social constructivist epistemology and investigate "how language *constructs* phenomena, not how it reflects or reveals them" (Phillips & Hardy, 2002: 6; emphasis added). In contrast, a practice ontology requires studying language use as an activity that reveals how actors experience practice and how they accomplish it. Committed to the practice ontology underlying the theory of routine dynamics, we narrowed our theoretical choice to practice-based approaches and theories.

Talk has been explicitly addressed and highlighted as an important aspect of practice in various strands of practice theory. Most practice theorists treat talk as a particular kind of action, i.e., action that involves language. As Schatzki and his colleagues (2001: 3) write: "Language [use] is a type of activity (discursive) and hence a practice phenomenon." However, the various strands of practice theory focus on different aspects of talk. Some practice theorists, such as Foucault (1972), focused more on the macro-level aspects of talk, examining how local talk reflects the structures of macro-level discourses. On the meso-level, Wittgenstein (1953) developed the concept of language games as sets of rules and linguistic conventions, stressing that the meaning of language depends on the institutional context or community of practice of which it is part. On the micro-level, Ethnomethodologists and conversation analysts (Llewellyn & Spence, 2009; Samra-Fredericks & Bargiela-Chiappini, 2008) have examined talk as a members' phenomenon, focusing on the various conversational and linguistic resources that actors use to accomplish talk. Finally, Heidegger conceptualized language as a tool that actors use to "point out aspects of [the] shared world" (Dreyfus, 1991: 221), concentrating on how the use of language manifests an actor's reflexivity in relation to practice.

Given our focus on how actors use talk to influence routine change, the Heideggerian practice theory offers a particularly fruitful micro-perspective on talk, which allows us to examine how actors use talk to express their reflections on and future orientation towards a routine. According to the existing literature on routines, both are important elements of routine change. To ground Heidegger's theoretical descriptions of language usage empirically, we will draw on selected analytical concepts of Ethnomethodology (EM) and conversation analysis (CA).

In his work, Heidegger was primarily interested in the individual and his or her relation to the world; more precisely, in how actors relate reflexively to their actions and how the way in which they use language manifests their reflexivity. He distinguished between three

different levels of reflexivity or "modes of being," as he called them, and associated different forms of language use with each. The first, or according to Heidegger "primary," mode of being is "absorbed coping": the actors are immersed in their activity and are aware neither of themselves nor of their tools; actors and tools are "transparent" and simply "available" in the activity (Knorr-Cetina, 2001). As Weick (2003: 467; emphasis in original) stresses: "What the practical activity does *not* consist of is a separation of subject and object." Thus, actors in the mode of absorbed coping display a form of "absorbed intentionality" (Chia & Holt, 2006: 640). Yanow and Tsoukas (2009: 1350) illustrate this concept with the example of driving a car:

> While driving [...], an experienced driver is absorbed in the task; she does not apprehend it in terms of its constituent components (the driver, the car, the road, the streetscape) but as a flow – a sequence of activities over time. She ceases to pay attention not only to the car as such, but also to herself as a separate entity doing the driving. Both the actor and the tool have become transparently available.

In the mode of absorbed coping, language is used as a tool that is assimilated in the activity and functions in a non-propositional and "transparent" way, i.e., language is simply "available" and actors do not take notice of it being there (Dreyfus, 1991). Dreyfus (2000: 317) illustrates this type of usage with the example "of a doctor, intent on the operation in process, saying 'scalpel' to her nurse and soon finding one in her hand." In this case, talk enables the surgeon to get on with the task at hand. In the context of routines, this form of language is manifest when talk serves as a "transparent" tool in the undisturbed enactment of the routine. To highlight the fact that talk is assimilated in the enactment of routines, we label this mode of talk "enacting talk."

The second mode of being that Heidegger distinguished is "practical deliberation." In that mode, actors become "thematically aware" of themselves and their tools, in the sense that they pay explicit attention to how they carry out their activities and to the tools they are using (Dreyfus, 1991). This kind of reflexivity is typical in situations of "temporary breakdown" , i.e., momentary disturbances in the activity (Sandberg & Tsoukas, 2011). However, in this mode, the awareness of oneself and of the objects that are part of the activity is still bounded by the particular context: "people still do not become aware of context-free objects" (Weick, 2003: 468). In Yanow and Tsoukas's example (2009: 1352), a temporary breakdown arises when "the gearbox, not working as smoothly as it should, grabs the driver's attention, and [...] she begins to wonder more intentionally about what may have gone wrong". In the mode of

practical deliberation actors use language propositionally to refer to particular aspects of the situation for the purpose of dealing with them; what Heidegger calls "interpretive assertions". Thus, here language is not intricately entwined with all non-verbal action, but stands out on its own. However, interpretive assertions are still constrained by the shared local context, frequently explicitly referring to it. In the context of routines, this form of language use occurs when routine participants temporarily pause to talk about particular aspects of the situation with regards to the practical concerns of the specific performance. In the example that Dreyfus (2000) described, this kind of talk would manifest when the surgeon and the nurse started discussing which scalpel to use in this concrete operation. To highlight the fact that language usage reflects aspects of the immediate context in relation to the practical concerns of participants, we label this mode of talk "situated reflective talk."

The third mode of being that Heidegger distinguished is "distanced deliberation": actors put aside the immediate practical concerns of their present situation and instead focus on the abstract properties of their world (Sandberg & Tsoukas, 2011; Tsoukas, 2010). The actor "decontextualizes the phenomenon, examining its features and attempting to relate them to one another" (Yanow & Tsoukas, 2009: 1353). In this mode, "tools, artifacts, and objects emerge as independent entities, removed from tasks, endowed with measurable properties [and] manipulated by distinct subjects" (Weick, 2003: 468). In the mode of distanced deliberation actors use language propositionally to make assertions about properties that bear no immediate relevance to a specific situation (Tsoukas, 2010: 58). Theoretical assertions are merely constrained by the shared understanding of the "average intelligibility of the public world" (Dreyfus, 2000: 318). As Dreyfus (1991: 80–81) stresses, in the mode of distanced deliberation actors engage "in a new activity," in which general properties and isolated objects are "recontextualized" and linked to other phenomena. In the context of routines, this form of language use manifests when routine participants talk about the properties of a routine in general without reference to any specific performance. In the example that Dreyfus (2000) used, this kind of talk would occur when the surgeon discussed with her colleagues which scalpels are most suitable for particular types of operations. To highlight the fact that, in this mode, actors use talk to refer to the general properties of a routine abstracted from specific performances, we label this mode of talk "distanced reflective talk."

For Heidegger, distanced deliberation is a deficient mode of being because "the practical background is 'ignored', as are aspects which depend on the context" (Dreyfus, 1991: 212; see also Sandberg & Tsoukas, 2011; Weick, 2003). Thus, for Heidegger theoretical assertions are "partial" and "can be deceptive, suggesting that the predicate

calculus [formal logic] is sufficient for describing the human world" (Dreyfus, 1991: 212). However, in the case of routines, which by definition involve multiple actors (Feldman & Pentland, 2003), distanced reflective talk plays an important role in that it provides routine participants with an orientation about the routine's pattern. After all, routines are not only about single performances but also about patterns of activities that repeat themselves over time.

While both Heidegger and later authors who interpreted and drew on his work (e.g., Chia & Holt, 2006; Dreyfus, 1991; Yanow & Tsoukas, 2009) elaborated extensively on the three modes of talk outlined above, they provided few guidelines on how to ground them in empirical research. However, as indicated above, Ethnomethodology (EM) and conversation analysis (CA) provide analytical concepts that are well suited to examining these modes of talk. In the following, we will describe the three analytical concepts that we selected as particularly suitable for our purpose (see also Table 4).

First, similar to Heidegger's focus on reflexivity, EM/CA are concerned with a specific notion of reflexivity; namely, the ways in which people 'orient to' to practice in unfolding interaction (Llewellyn & Spence, 2009). In the literature, this is described as "building intersubjectivity." Actors achieve this primarily through the sequential organization of utterances and other nonverbal actions (Peräkylä & Ruusuvuori, 2011). When actors use language as a tool that is assimilated in an activity, i.e., in enacting talk, often the relevant context of an utterance is not another utterance, but nonverbal actions (Goffman, 1981: 142). For example, in enacting talk, when a surgeon utters the word "scalpel," a nurse may respond simply by handing her one. This action reflects the nurse's inference that their joint focus is the task at hand. In contrast, when actors use language in a propositional way, i.e., in situated reflective or distanced reflective talk, often their purpose is to point something out or to communicate something to others (Dreyfus, 1991). In these modes of talk, the relevant context of an utterance is typically another utterance and speakers follow a more organized turn-taking system (Sacks, Schegloff, & Jefferson, 1974). In talk, speakers display their inference that the joint focus of talk is either the situation (situated reflective talk) or a decontextualized phenomenon and its general properties (distanced reflective talk) by making appropriate assertions. In routines comprising formally arranged conversations, such as meetings, enacting talk may also be characterized by an organized turn-taking system; however, the speakers' joint focus is neither the particular meeting nor the general properties of meetings, but rather the topic at hand.

Table 4: Characteristics of the Three Modes of Talk

Mode of talk	Enacting talk	Situated reflective talk	Distanced reflective talk
Heideggerian perspective			
Mode of being	– Absorbed coping: actors are immersed in the activity. – Actors and tools are "transparent" and simply "available" in the activity.	– Practical deliberation: actors pay explicit attention to how they carry out the activity. – Actors become thematically aware of themselves and the tools employed in the situation.	– Distanced deliberation: actors become thematically aware of the abstract properties of their world. – Actors decontextualize the phenomenon and examine its general properties.
Characteristics of talk	– Language is used as a tool assimilated in the activity. – Language functions transparently, in a non-propositional way.	– Language is used propositionally to point out particular aspects of the situation. – Interpretative assertions are constrained by shared local situation.	– Language is used propositionally to point out properties that bear no relevance to a particular situation. – Theoretical assertions are constrained by the average intelligibility of the public world.
Ethnomethodology / conversation analysis perspective			
Building intersubjectivity	– The relevant context of an utterance can be another utterance or a nonverbal action ⟹ often no systematic turn-taking system. – Joint focus on task at hand.	– The relevant context of an utterance is typically another utterance ⟹ more clearly defined turn-taking system. – Joint focus on the local situation.	– The relevant context of an utterance is typically another utterance ⟹ more clearly defined turn-taking system. – Joint focus on a decontextualized phenomenon and its general properties.
Speaking knowledge	– Knowledge, if articulated, focuses on the task at hand.	– Knowledge about the tools, the task at hand and the particular situation is articulated and progressively clarified, expanded and even contested in talk.	– Knowledge in the form of typifications and typified categories is articulated and progressively clarified, expanded and even contested in talk.
Referencing	– Reference to the task at hand indicated by deictic expressions.	– Reference to the local situation indicated by deictic expressions. – Personal pronoun "we" refers to actors' institutional roles in the task at hand.	– References to the past, the use of transposed deictics and typified categories. – Personal pronoun "we" refers to the collective institutional setting.

Second, conversation analysts are interested in what kind of knowledge is brought to the surface and given weight in talk and how it is clarified, progressively expanded and contested (Samra-Fredericks, 2003). This echoes Heidegger's distinction between interpretative and theoretical assertions and is referred to as "speaking knowledge" (Samra-Fredericks, 2003). In enacting talk, when language is used transparently, i.e., assimilated as a tool in an activity, the knowledge that the participants articulate focuses on the task at hand. In contrast, in the situated reflective mode, actors use talk to articulate knowledge about the tools, the task and the situation at hand and to progressively clarify, expand and even contest this knowledge. For example, during an operation, a surgeon and a nurse may debate which scalpel is appropriate in this particular case by bringing forth what they know about the patient and about the available scalpels. In distanced reflective talk, when actors make theoretical assertions about general properties or "what counts as normal by a normal user" (Dreyfus, 1991: 230), knowledge is articulated in the form of "typifications" (Berger & Luckmann, 1966); that is, typified categories that allow actors to sense-make, reason and organize (Psathas, 1999; Samra-Fredericks, 2003). For example, surgeons may typify certain kinds of scalpels as appropriate for specific kinds of operations.

Third, in EM/ CA "referencing" is a key concept because it constitutes an important device for actors to establish a joint focus in their interaction. EM/ CA scholars distinguish between utterances that derive their meaning from the local context—i.e., that refer "deictically" to the local situation—and utterances that refer to things outside the current situation (Enfield, 2013). This distinction reflects Heidegger's point that "there is a crucial difference between the way language refers lexically in a local situation and the way it refers to things and events in the rest of the world" (Dreyfus, 2000: 318). Both in enacting talk and situated reflective talk, actors are likely to use primarily deictic expressions to refer to the task at hand and the local situation. For example, in the context of an operation, when a surgeon calls out "scalpel," the word does not refer to the abstract category of tools classified as scalpels but to a specific scalpel that that lies next to the surgeon. In contrast, in distanced reflective talk, actors typically refer to things outside the local situation either by using typified categories (Berger & Luckmann, 1966) or by giving an account of past events (Samra-Fredericks, 2003) or imagined narratives (see Fillmore, 1997). This kind of referencing is marked by transposing the so-called "deictic origo", i.e., from where words derive their meaning. When speakers refer to the local situation, the deictic origo is the time and place of speaking, but when they refer to things outside the local situation the deictic origo is transposed to the narrative or imagination (Levinson, 2005). The way in which actors

use the personal pronoun “we” in talk also reflects differences in referencing: in situated reflective talk, the heightened reflexivity of actors in relation to the situation is evident in their tendency to use “we” not to refer to themselves personally, but to their institutional roles in the task at hand. In contrast, in distanced reflective talk actors often use “we” to refer to the collective institutional setting (Drew & Sorjonen, 1997).

With regards to our research question, the three modes of talk that Heidegger distinguished and the three analytical concepts drawn from EM/ CA provide us with a theoretical perspective and an analytical tool kit that will allow us to examine how actors use talk to influence routine change.

2.3 Methods

2.3.1 Research Context

This paper is based on a one-year ethnographic study investigating routine stability and change at CellCo, a start-up company in the pharmaceutical industry (see also chapter 3 in this thesis in which we use the same research setting and routines to examine a different aspect of routines from a different theoretical lens). We used an inductive approach aimed at building theory about different aspects of routine dynamics. At the outset, we were broadly interested in how routines develop over time; the focus on talk emerged as the study progressed. CellCo provided an attractive setting for studying routine dynamics: on the one hand, the pharmaceutical industry is characterized by extensive standard operating procedures whose aim is to ensure product quality, reliability and stability (Anand, Gray, & Siemsen, 2012). On the other hand, because CellCo was relatively young and ambitious to grow, we anticipated that we would have the chance to observe a lot of changes to routines.

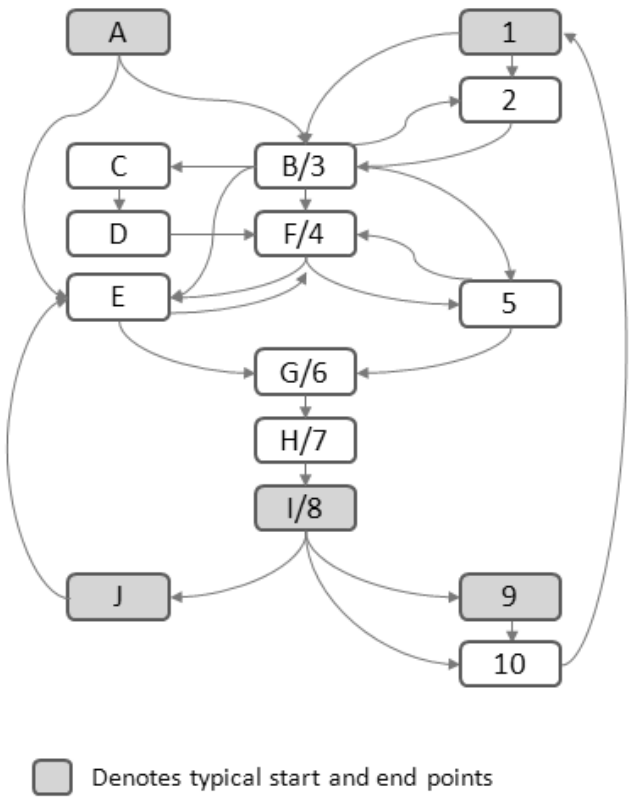
CellCo was founded two years prior to our study as a university spin-off. Its product portfolio comprised three categories: (1) plastic plates for growing cell tissues, (2) standardized tissues produced at CellCo and shipped to customers and (3) customer-specific tissues developed in R&D projects. At the beginning of our study, the company had 18 employees; the management consisted of the three founders and a quality manager. After a period of becoming acquainted with CellCo, which included several interviews, the field researcher decided to focus data collection on the areas of production and operations, which were of high importance to CellCo and promised to offer opportunities for observing both routine stability and change.

In these areas, shipping turned out to be a central and non-trivial routine, which took both CellCo's managers and employees by surprise: customers expected the quick and safe delivery of both plates and cell tissues; one customer even claimed to base 50% of his buying decision on CellCo's ability to deliver products fast. However, due to the fragile nature of cell tissues and the complexity of shipping products to international destinations, CellCo employees frequently encountered problems with shipments, as a result of which they had to adapt their actions quickly and frequently. The shipping of products at CellCo exhibited several typical characteristics of routines (Feldman & Pentland, 2003): first, shipping was highly repetitive, to the tune of at least one shipment per week; in total we observed more than 100 performances of shipping. Second, shipping required the interaction of several actors: the CEO, the sales agents, the lab and administrative employees, as well as the quality manager. Moreover, responsibilities shifted several times during our study. Third, shipping followed two distinct, recognizable patterns of action (see Figure 1): the shipping of non-biological products (mainly plates) and the shipping of biological products (mainly cell tissues). While non-biological shipments were robust, biological shipments were more fragile and failed easily when there were delays or other problems.

At the beginning of our observations, the shipping of non-biological products usually exhibited the following pattern (see Figure 1, column 1): first, the CEO or a sales agent would receive a customer order and ask another employee to prepare the shipment. The employee would then place an order online with the shipping provider, put the content of the shipment in a box, close and seal the box and attach the shipping documents. Lastly, the employee would hand over the box to the shipping carrier. The shipping of biological products entailed a slightly more complex set of actions (see Figure 1, column 3): first, a lab employee would prepare the biological product in the lab. Next, the employee would put the product and supporting material (e.g., dry ice) in a box and ask another employee to finalize the shipment. The other employee would then place an order online with the shipping provider, fill in the shipping documents, close and seal the box and attach the shipping documents. Lastly, the employee would hand over the box to the shipping carrier.

Because individual performances of routines often varied, the actions they involved might naturally follow a different sequence or include additional steps, such as handling customer complaints. Moreover, if a shipment had been damaged and needed to be replaced, the pattern of action was repeated. In line with similar studies (Pentland & Feldman, 2007; Pentland, Haerem, & Hillison, 2011; Salvato & Rerup, 2011), here such variations are depicted as observed sequences of action (see Figure 1, column 2). During the course of our

Figure 1: Patterns of Actions Observed in the Shipping Routine

Pattern 1: shipping of non-biological products (e.g., plates, marketing material)	**Observed sequences of action**	**Pattern 2: shipping of biological products (e.g., cell tissues, cultivation medium)**
A. The sales agent / CEO receives a customer order. B. The sales agent / CEO asks employee X to prepare the shipment (i.e., initiates the shipment). C. Employee X asks experienced colleague Z to help with the shipment. D. Employee Z gives X advice. E. Employee X puts the shipment's contents in a box. F. Employee X places an online order with the shipping provider. G. Employee X closes and seals the box. H. Employee X attaches the shipping documents to the box. I. Employee X hands over the box to the shipping provider. J. Employee X handles customer complaints.		1. A lab employee prepares the biological product for shipment in the lab. 2. The lab employee puts the biological product and additional material in a box (e.g., data logger, dry ice, gel pads). 3. The lab employee asks employee X to finalize the shipment (i.e., initiates the shipment). 4. Employee X places an order with the shipping provider online. 5. Employee X fills in the shipping documents for biological products. 6. Employee X closes and seals the box. 7. Employee X attaches the shipping documents to the box. 8. Employee X hands over the box to the shipping provider. 9. Employee X supplies additional documents to customs. 10. The lab employee handles customer complaints.

study, the shipping routine changed substantially, mainly in terms of how, where, when and by whom particular actions were carried out. Talk, as we realized, played an important role in initiating and influencing these changes.

2.3.2 Data Collection

Data was collected primarily through non-participant observation, audio-recordings, interviews and documents. The first author spent two to three full days a week at CellCo for an entire year, observing the employees' daily interactions, attending meetings with suppliers and customers and participating in socializing events. At the outset, as is typical of ethnographic studies, a primary concern was to build relationships in the field and to obtain access to the different areas of interest. The researcher's presence at CellCo was quickly accepted and, although she did not participate in work-related activities, she became part of the team. CellCo's employees appeared happy to provide her with detailed information on and insights into their work. The researcher took detailed field notes of the day-to-day interactions at CellCo, extending and completing them within 24 hours (Emerson, 1995).

In the course of data collection, we continuously tried to make sense of the observations, kept notes about our reflections and used these insights to guide our activities in the field. During that stage, we modified our approach in two significant ways: first, because we initially expected to observe and record primarily nonverbal actions in routine performances, we were soon surprised to note that a substantial proportion of the field notes referred to people talking while performing a routine and talking about routines in other settings, such as meetings. In these instances the field researcher acted merely as an observer and did not trigger talk. Consequently, the talk observed in all these cases qualifies as what is often termed "naturally occurring talk," i.e., oral communication between actors that occurs independently of the researcher's intervention (Silverman, 2001: 195). We then decided to change our means of data collection and started to audiotape regular and unscheduled meetings, as well as talk during concrete activities. Second, we decided to narrow the focus of our observations to six routines that became central to CellCo's operations: the assembly of plates, the standardized production of cell tissues, warehousing, shipping, quality management and project management. Narrowing our focus was necessary to ensure that our observations of routine performances were chronologically complete; at the same time, it reflected the fact that CellCo employees recognized these routines as important for their work.

To contextualize our observations, we carried out 30 semi-structured interviews (lasting between 30 minutes and 2.5 hours) with key members of the organization, both at the

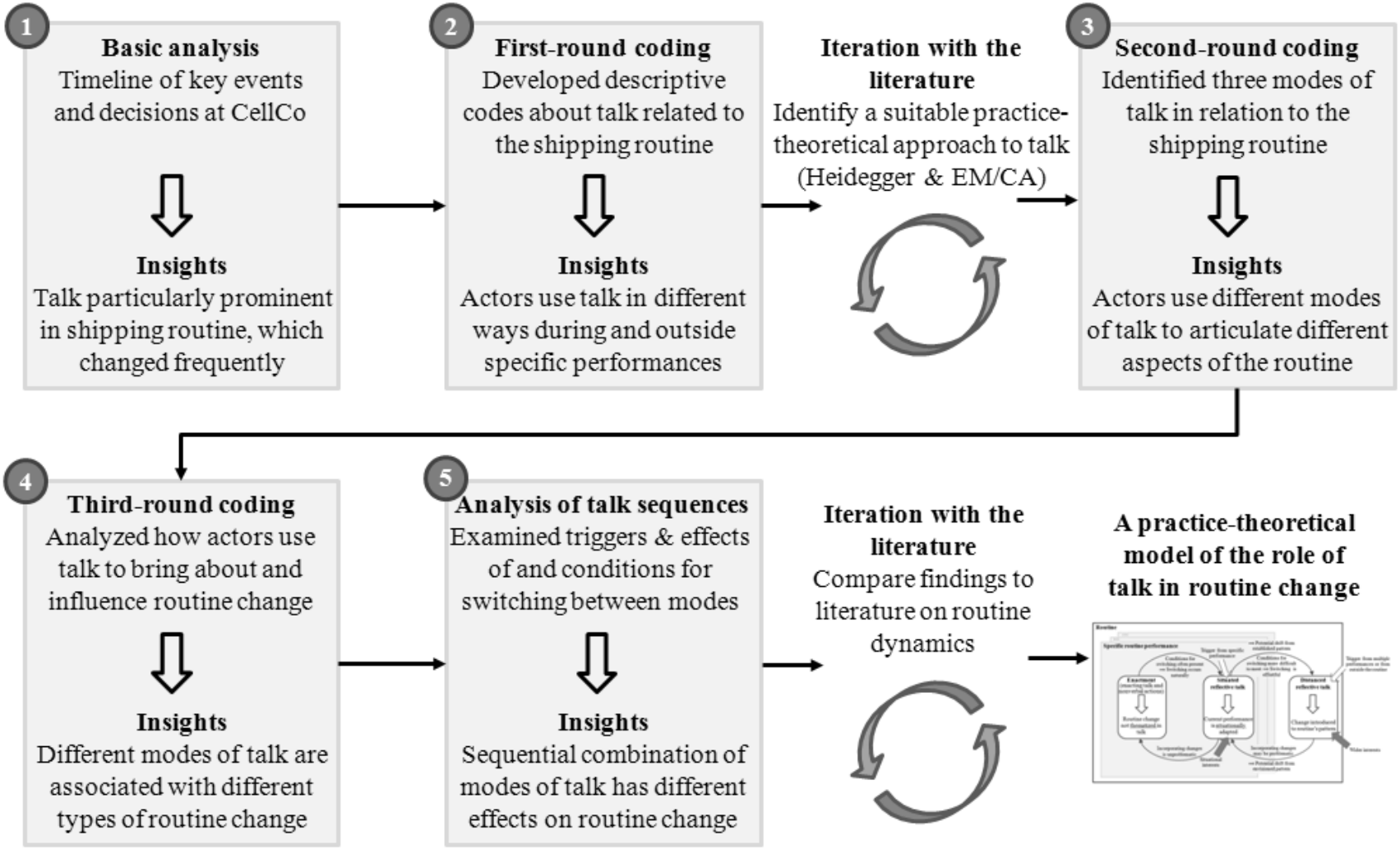
beginning and the end of our study. These interviews were complemented with frequent informal discussions that became part of the observations (Spradley, 1979). We also collected numerous documents and archival data related to the activities we observed. All in all, our data comprises close to 1,000 pages of field notes, 3,000 pages of transcripts (which represent 150 hours of audio-recorded meetings, interviews and conversations) and approximately 8,000 internal documents.

2.3.3 Data Analysis

In line with other qualitative studies on organizational routines (Howard-Grenville, 2005; Rerup & Feldman, 2011), we analyzed the data following an iterative approach. This involved circling back and forth between our empirical material, emerging interpretations and the existing literature. The data analysis proceeded in five stages (see Figure 2). In the first stage, we created a timeline of key events and decisions at CellCo. For each of the six routines we observed, we assembled the relevant ethnographic field notes and transcripts of naturally occurring talk, excluding any audio-recordings in which talk was triggered by the researcher (e.g., interviews). Of these six routines, we chose to look more closely at the shipping routine, which was crucial to CellCo's survival, changed frequently and thus featured especially prominently in our data set. An additional reason for selecting this routine was that it is easy to grasp for readers unfamiliar with our research context (Rerup & Feldman, 2011).

In the second stage, we developed descriptive codes to classify the ways in which CellCo's members talked in relation to the shipping routine. Three questions guided our initial coding: (1) what did the actors talk about? (2) Where and when did they talk about it? (3) Who participated in the conversation? For example, when a lab employee walked to the desk of the quality manager and said "I have put the plates with the cells for [customer X] on the packing station. They are ready," we coded this utterance as "providing information" and "talk is part of performing the routine." In contrast, when one of the founders in the management meeting said "Yes, [...] she would be a good fit for supervising all the plate shipments," we coded this utterance as "discussing who should generally do what" and "talk in different time, place and with other actors than in routine activities." At that stage, we noted that actors used talk in different ways, both during and outside specific performances. In some instances, talk was closely interwoven with nonverbal actions (e.g., preparing a box for a shipment), while in other instances (e.g., in a meeting) actors used talk to refer to the shipping routine in general.

Figure 2: Analytical Process of Coding and Emerging Insights



We moved back and forth between our empirical material and the literature, looking for theoretical concepts that would allow us to capture our observations and deepen our thinking. To that end, we considered different theories of language use in communication studies, discourse studies and practice-based studies. Given our ontological commitment to practices and the practice ontology underlying the literature on routine dynamics (Feldman & Orlikowski, 2011), it seemed apt to adopt a practice-theoretical approach to talk. We found that combining Heidegger's practice-theoretical approach to language use with selected concepts from Ethnomethodology (EM)/ conversation analysis (CA) enabled us both to capture our observations and deepen our analysis of how actors use talk in relation to routines.

In the third stage, we identified and applied the three analytical concepts of EM/ CA that fit well with the key characteristics of language usage described by Heidegger: "building intersubjectivity," "speaking knowledge" and "referencing." To identify clearly the mode of talk in each instance of naturally occurring talk, we answered three sets of questions that pertained to each of the three concepts we chose (see also Table 4). First: (1a) is intersubjectivity built primarily verbally or through combining verbal and nonverbal actions? (1b) Is the joint focus on the task at hand, on the situation or on a decontextualized phenomenon and its general properties? Second: (2a) Do actors articulate knowledge that relates to the task at hand or to the specific situation or do they employ typifications and typified categories? (2b) To what extent do actors progressively expand and even contest knowledge in talk? Third: (3a) Do actors reference primarily the task at hand or the local situation, using deictic expressions or (3b) do they refer to things and events outside the local situation by referring to the past, using transposed deictics and typified categories? (3c) Do actors use the personal pronoun "we" to refer to themselves personally, to their institutional roles in the task at hand or to the collective institutional setting? The ethnographic component of our research proved crucial in our efforts to answer these questions because it enabled us to grasp what actors referred to when they talked.

Synthesizing our answers, we associated each instance of talk in our data with a particular mode of talk. Being able to clearly categorize each instance of talk strengthened our confidence in the distinction between the three modes of talk[ii]. Furthermore, our analysis revealed that even though both the physical setting and the type of activity influence the mode of talk, they do not determine it: For example, actors may use situated reflective talk to discuss a specific shipment during a coffee break, not when they are enacting the routine (see example D in the Appendix). Or, actors may even use distanced reflective talk during a

specific performance of the shipping routine, not only outside of specific performances (see example E in the Appendix).

In the fourth stage, we analyzed in depth how the actors used these three modes of talk to influence routine change. We examined closely the degree and type of change that the actors negotiated when they used a particular mode of talk and what actors referred to in order to bring about or prevent change. Again, our ethnographic background proved crucial to grasping the significance and consequences of how the actors used talk. At this stage, we realized that situated reflective and distanced reflective talk were associated with distinct types of routine change, while in enacting talk, the actors did not thematize routine change.

In the fifth stage, we analyzed sequences of naturally occurring talk and employed detailed vignettes in order to explore how the three modes of talk were linked over time and how the patterns of talk affected routine change. During our analysis, we identified "switching" as the key mechanism that enabled and constrained actors in their use of talk: switching refers to how actors shift from one mode of talk to another, either in the course of a single discussion or in consecutive conversations related to a routine. We examined in detail the triggers and conditions that enabled the actors to switch between different modes, as well as how switching modes affected routine change This part of our analysis revealed that different modes of talk are associated with different triggers and conditions for switching and that the sequential combination of modes of talk over time has different effects on routine change. We interpreted our findings in light of the existing literature and, on the basis of our insights, developed a practice-theoretical model of the role of talk in routine change.

2.4 First-Order Analysis: Characteristics of Different Modes of Talk

We will present our findings in two steps: in this section, we discuss how CellCo employees used talk in different ways to bring about and affect routine change. In the next section, we will show how switching between the different modes of talk conditioned the way in which the actors used talk in routine change. To substantiate our findings, we will illustrate each mode of talk with a vignette; furthermore, in the Appendix we provide additional examples that concisely illustrate the different aspects of our theoretical argument. In describing the excerpts, we point out solely exemplary characteristics of each mode of talk and focus on how the actors used talk to affect routine change. Although in the enacting mode the actors did not use talk to thematize change, we chose to depict it nonetheless in order to distinguish it from the other two modes of talk.

2.4.1 Enacting Talk

The primary mode of talk that we observed at CellCo was enacting talk. In this mode, talk is assimilated into the activity of performing the routine, as other tools are, and functions transparently, i.e., in a non-propositional way. Each performance of the shipping routine entailed some enacting talk. In the fifth month of our study, the field researcher observed the following performance of shipping plates:

Vignette 1: Finalizing a Plate Shipment (Enacting Mode of Talk)

On Monday, the CEO asked Susan, the export manager, to prepare a plate shipment. Accordingly, Susan put the number of necessary plates, the certificate of quality and the product manual into a box. The next day, John, her deputy, placed an order with the shipping provider and prepared the shipping documents. Susan and John then finalized the shipment together (see Figure 1, G and H). In this vignette, John is at the packing station and has started to pack the box with Styrofoam.

John: "So [stuffs Styrofoam into the box] and ..." [keeps on stuffing].

Susan: [handing John the manual] "The manual."

John: [takes the manual and puts it in the box] "Yes, and the manual ..." [closing the box]. "So, and now …" [looking around] "… the invoice and delivery note" [walking over to his desk, he gets the invoice and the delivery note from the printer] "… into the envelope" [puts the invoice and the delivery note in the envelope]. "Is the address visible ?" [turns the envelope around and looks at both sides]. "OK, good … and now the expert tape" [laughs, keeping the box closed with both hands].

Susan: [starts putting tape around the box, teasing] "Do you want me to tape your hands?"

John: [John pulls his hands away and watches how Susan wraps the tape around the box. John takes the envelope and puts it on the box using double-sided adhesive] "Then let's put this thing on …"

Susan: [taking a sticker from the packing station that says "fragile"] "Maybe this."

John: [taking the sticker and putting it on] "Yes [...] Ready to roll. Number 1 done."

Talk in this vignette exhibits the typical characteristics of enacting talk: throughout the sequence, Susan and John *build intersubjectivity*—that is, a mutual understanding of the task at hand—by combining utterances and nonverbal actions. For example, when John says "and now the expert tape" (line 8), Susan responds by putting the tape around the box. Susan's action reflects her inference that John asks her to use the tape in the task at hand, not that he points out an aspect of the situation. In addition, most utterances refer deictically to the objects in the situation, such as "the manual" (line 3) or "the invoice and delivery note" (line

4). Similarly, John uses temporal deictics (i.e., words requiring contextual information), such as “now” (lines 4–8) and “then” (line 14) to indicate the next steps they need to take to finalize the shipment. Because John and Susan already have a shared understanding of what preparing the shipment requires, they hardly use talk to articulate knowledge about the task. They use talk mainly in the form of cues addressed to each other (e.g., “the manual” in line 2) or to themselves (e.g., “Is the address visible?” in line 7) that point out what is necessary to finalize the shipment.

Examining how actors use enacting talk, we find that Susan and John use talk to initiate the next steps in enacting the routine (e.g., by saying “the manual” in line 2). We also observed that actors used enacting talk to exchange information about the task at hand. In example B in the Appendix, John uses enacting talk to ask Stephen to which customer the tank should be shipped. Talk is assimilated in the activity and used together with other tools to enact a routine. This is well illustrated in example A in the Appendix, where Stephen uses enacting talk to dictate what John should type in the shipping documents. Implicitly, talk also marks an activity as part of performing a routine. Observers familiar with the shipping routine at CellCo would immediately recognize from some of the words that feature in Vignette 1, such as “the manual” (line 2) and the “delivery note” (line 4), that Susan and John are performing the shipping routine. As these examples show, actors do not use enacting talk to thematize routine change. Indeed, there appears to be no need for change. Although in the enacting mode nonverbal actions may change the performance, the actors do not use talk to initiate, affect or retrospectively acknowledge this change. To achieve any of those things, they switch to either situated reflective or distanced reflective talk.

2.4.2 Situated Reflective Talk

One way in which the actors we observed initiated change in the shipping routine was the use of situated reflective talk. In this mode, talk is still part of performing a routine, but actors use it propositionally to point out particular aspects of a specific performance and to make interpretative assertions about it. The following vignette, which concerns a shipment of plates that we observed in the fourth month of our study, provides a good illustration of this mode of talk.

Vignette 2: Negotiating the Finalization of a Plate Shipment (Situated Reflective Talk)

Susan, who is also the warehouse manager at CellCo, is preparing a box of plates at the packing station, when Chris, the CEO, walks up to her with a customer order in his hands. Heather, who is mentioned in this conversation, is a scientist working in the lab.

Chris: "Now, I have another order for 10 units from [customer X] that we can finalize tomorrow [waving the order]. I can finalize it. You are not here tomorrow, right?"

Susan: [glancing at the stock of plates at the packing station] "We can't finalize it because Heather needs a lot of plates, I think. We only have 20 left in stock."

Chris: "But Taylor allowed me to take some of those that were put aside for [customer Y]."

Susan: "Well, I won't interfere here." [...]

Chris: [gesturing towards the plates] "In any case, the plates for [customer Y] will be lying here until the plates from [supplier Z] arrive. So if Heather needs some, she can take the remaining plates. Of course, it all needs to be correctly recorded, though."

In this vignette, talk is markedly different from talk in the previous vignette: Chris starts the conversation by speaking knowledge (i.e., articulating a particular kind of knowledge) about the task at hand ("another order […] that we can finalize tomorrow," lines 1-2) and the situation ("you are not here tomorrow, right?"; lines 2-3). As talk continues, knowledge about the situation is progressively expanded by Susan ("We can't finalize it [...] we only have 20 left in stock," lines 4-5) and even contested by Chris ("But Taylor allowed me to take some of those," line 6). Notably, the actors build intersubjectivity primarily through verbal means, by taking turns to talk. For example, when Susan replies to Chris's question by pointing out another relevant aspect of the situation (i.e., a lack of plates), she displays both her understanding of the situation and her willingness to discuss how to finalize the shipment. The heightened reflexivity of these actors is also indicated by the personal pronoun "we" (lines 1, 4, 5), which refers not to Susan and Chris personally, but to their institutional roles in finalizing shipments. Furthermore, the actors reference the local situation, which also helps support their joint focus. For example, Chris uses specific expressions (e.g., "another order" in line 1), temporal deictics (e.g., "now" and "tomorrow" in lines 1-2) and personal pronouns (e.g., "I" and "you" in line 2) to refer deictically to the current routine performance.

Analyzing how actors use talk in relation to the routine, we find that Chris and Susan use talk to point out what distinguishes this particular performance from 'regular' routine performances. For example, the reason why Chris points out that Susan will not be around the next day (line 2) is because in normal circumstances she would have been there to finalize the shipment. Similarly, Susan draws attention to the lack of plates (lines 4-5) because, in contrast to regular performances, without the plates they cannot finalize the shipment immediately.

This example shows that drawing attention to particular aspects of their situation allows routine participants to use talk to acknowledge, suggest and negotiate alternative courses of action that depart from the established pattern of the routine. In this case, for instance, Chris suggests that, instead of Susan, he can finalize the shipment. When Susan points out the lack of plates, Chris acknowledges that he has already taken a different course of action, i.e., that he wants to use plates that have been designated for another customer. Normally Susan would not have used these plates, but because Taylor, Susan's manager, has already approved Chris's suggestion, Susan chooses not to argue against the proposal (line 8). This example demonstrates how power relations may come into play when actors use situated reflective talk and may thus influence how a specific performance is adapted to a particular situation. In other instances, we observed how the actors involved used situated reflective talk to develop *jointly* an alternative course of action. In example D in the Appendix, for instance, the participants use talk to jointly work out how John can take 30 individual free samples to the US, instead of shipping them separately.

Furthermore, we observed that actors used situated reflective talk to explain to others how to enact a routine: in Vignette 2, for instance, Chris uses talk to emphasize that, although this performance departs from regular performances of the shipping routine, it still needs to be documented properly (line 10). In other instances, we observed how John used situated reflective talk to explain to colleagues how to place an order with the shipment supplier or how to fill in the shipping documents. It should also be noted that, through their assertions and suggestions, routine participants also explicitly or implicitly articulate their intentions: for example, in Vignette 2, Chris's suggestions to finalize the shipment the next day and to use plates that have already been designated for a different customer (lines 1 and 6), implicitly communicate his intention to finalize the shipment as soon as possible. Similarly, in example D in the Appendix, John articulates his intention to reduce costs by suggesting to take the 30 free samples with him when he goes on vacation to the US.

Turning to the role of situated reflective talk in routine change, we find that actors used talk to perform the routine flexibly; that is, adapt it to a specific situation, either to solve particular problems (such as Susan's absence the following day, in Vignette 2) or to take advantage of situational opportunities (such as John's planned vacation in the US in example D in the Appendix). However, routine participants also used situated reflective talk to prevent performing a routine flexibly. In example C in the Appendix, for instance, we see that Chris expected John to prepare a shipment, but had not yet given him the "order process router" (i.e., the necessary document for initiating a shipment). During their interaction, John uses

situated reflective talk to point out that without the router he won't prepare a shipment, thereby preventing Chris from deviating from the established pattern. Lastly, actors used situated reflective talk to link situational interests to a specific performance, thereby influencing how it is adapted. In example C in the Appendix, Chris uses situated reflective talk to prevent sending the new plates because of their bad test results that would give a bad impression to the customer and instead suggests sending the old plates.

As our examples demonstrate, the usage of situated reflective talk is associated with a specific type of routine change: the actors use talk to reflect on and change a specific performance. The established pattern of the routine, the ostensive aspect, is not explicitly mentioned in talk, but it serves as a background to articulate how the performative aspect differs from the ostensive. In Vignette 2, for example, the meaning of Chris's question "You are not here tomorrow, right?" (lines 2-3) derives from the context of the established pattern according to which Susan normally finalizes shipments. Situated reflective talk is still part of performing the routine; however, it is distinct from enacting talk because routine participants pause for a moment and discuss how to go on. The length of such pauses varies; some may be almost imperceptible, others longer and more noticeable (as, e.g., in example D in the Appendix).

If actors continue to perform a routine differently over time, the routine's pattern gradually changes. For example, at CellCo we observed how in situated reflective talk the actors repetitively negotiated not using the shipping provider TransCo, which was normally contracted for all shipments to Europe. Over time, the actors increasingly used another shipping provider and after a while stopped discussing this issue altogether. Thus, the established pattern changed slowly but permanently. This illustrates that situated reflective talk provides the potential for what is termed "routine drift"; that is, an unintended, slow and impreceptible change in the routine's pattern (Ortmann, 2010).

2.4.3 Distanced Reflective Talk

The third mode of talk that actors use in relation to the shipping routine is distanced reflective talk. In this mode, actors use talk propositionally to refer to general properties of the routine that are decontextualized from a specific performance. The following vignette, which depicts a discussion about the shipping routine in the management meeting, provides a good illustration of this mode of talk.

Vignette 3: Problems with the Shipping Provider ShipCo (Distanced Reflective Talk)
CellCo's three founders Chris, Taylor and Michael, the quality manager John, and the

marketing assistant Carol hold their management meetings regularly on Tuesdays. Typically, they go through the individual items of the agenda, which Chris, the CEO, distributes at the beginning of the meeting. The meeting takes place in a separate meeting room and participants bring along their notebooks or documents. During the eighth week of our observations, while going through the list of sales deals, Chris unexpectedly touched upon a problem with a particular shipment.

Chris: [glancing at the agenda in front of him] "And then we have PartnerCo. Last week we sent them a shipment that did not work 100% on several levels. […] It seems that the box was first transferred to ShipCo's hub in [country Y], which is normal because it's their hub, and then it went to [country X]. From there, back to ShipCo's hub and then again to [country X] and, as a result, it arrived not on Thursday, but on Friday. We didn't have sufficient dry ice in the box, so the temperature went up. This is an issue that we need to raise with ShipCo, to find out what the reasons were, whether some documents were missing."

Taylor: "I think that even if we find out the exact reasons, ShipCo will still be able to come up with excuses. They can always say it got stuck somewhere. So, I think we should see to it on our part that we include dry ice for at least two days."

Chris: "Being on the safe side is one thing. But I still think that we should make sure that ShipCo really get the point: we have shipments where timing is crucial and others where it's not. With the plates, I don't care if it takes two days, but we should ensure that ShipCo gives the time-sensitive shipments the appropriate priority."

John: "I have already talked to ShipCo—when we had the problem with the shipment to [country Z]. The problem is that everything has to go through their hub and there are often problems there—workers are on strike or something."

Chris: "Well, I mean, it's OK that they work through a hub because that's how they achieve efficiency." [...]

Taylor: "The question is, what is the alternative?"

John: "At my former employer's, they don't work with ShipCo anymore. [...] They work with TransCo and DeliverCo now. If they have a shipment on dry ice, they work with DeliverCo and that always works fine."

Chris: "Can you get in contact with them and arrange a meeting?" [John nods and makes a note in his notebook.]

Carol: "May I bring up another point? From my earlier job—also a little bit related to transportation—I know that it is quite difficult to send something to [country X]. One wrong check mark and the shipment gets stuck at the customs. Our solution was to work together with a broker to ensure everything would go smoothly."

Talk in this vignette exhibits the typical characteristics of distanced reflective talk: the actors use talk to refer not to aspects of the local situation (i.e., the meeting), but to *typified categories* of things (i.e., broader categories decontextualized from specific things), past events or the collective institutional setting. For example, Chris starts the conversation by giving an account of the failed shipment in the previous week (lines 1 to 7). This reference is

marked in talk by a shift of the *deictic origo* (i.e., the time and place of speaking) from the local situation, i.e., the meeting, to the story of the failed shipment. Thus, "there" and "then" in line 4 are *transposed deictics* (i.e., deictics that refer to the place and time in the story). Similarly, both John and Susan put the past to work by referring to their former employers (lines 23 and 28). The speakers also use typified categories to refer to things, such as "dry ice" (line 11) or "broker" (line 31). In addition, the personal pronoun "we" (lines 1, 5–7) is used to refer to the collective institutional setting, i.e., CellCo, rather than to specific roles in the routine. Through these referential practices, the speakers distance themselves from a specific shipment and talk about shipping in general terms. In this process, they build intersubjectivity verbally, turn by turn, throughout the conversation. After Chris's longer turn about the failed shipment, Taylor displays his inference that Chris wants to talk about shipping in general by articulating his typified knowledge of ShipCo ("They can always say it got stuck somewhere," line 10). Knowledge in the form of *typifications* (i.e., decontextualized from specific situations) and typified categories is further expanded and contested as the conversation continues. For example, John adds to the typification of ShipCo by pointing out that ShipCo's main problem is the use of a hub where "there are often problems" (line 18–19). Chris defends ShipCo's use of a hub by referring to the typified category of "efficiency" (line 21), which can be seen as an instance of the more general "Discourse of efficiency" (Samra-Fredericks, 2003: 154).

Examining how the actors relate to the shipping routine in distanced reflective talk, we find that they use talk to point out some of the general properties of this routine's pattern. For example, Chris argues that a crucial distinction between cell tissue shipments and plate shipments is the relative importance of timing in each case (lines 13 to 15). Furthermore, the actors use talk to associate particular elements of the routine's pattern with other aspects of the organization or the world at large. Chris, for example, associates ShipCo's use of a hub with efficiency (lines 20–21). Similarly, in example E in the Appendix, Laura associates using a membrane to ship cell tissues with the issue of costs, while Taylor associates it with looking professional. The aspects that the actors associate with the routine's pattern are not necessarily relevant to specific performances: usually, routine participants are not concerned about costs or looking professional when they finalize a cell tissue shipment, but about ensuring that the shipment reaches the customer safely.

Actors also use distanced reflective talk to suggest, jointly develop and negotiate possible alternative patterns that improve the routine In Vignette 3, for example, the actors point out several alternatives to the established pattern of shipping: Taylor suggests including

dry ice for at least two days (line 11), Chris suggests that ShipCo should give time-sensitive shipments more priority (line 15), John suggests that CellCo should use two other shipping providers (line 24), and Carol suggests using a broker (line 31). Actors can suggest alternative patterns by referring either to current or past contexts (e.g., here John and Carol refer to their former employers) or to imaginary contexts (e.g., in example F in the Appendix, John illustrates an alternative pattern by describing a fictitious shipment). In talk, actors may also acknowledge variations that are already being enacted (e.g., in example F in the Appendix, John acknowledges that he is ready to use an exemption from X-ray at airports). In this way, talk is a means to recognize and make explicit emergent change that has happened through *nonverbal* actions. Through their assertions and suggestions, actors also explicitly or implicitly articulate their (potentially diverging) understandings of and intentions with regards to the routine: in Vignette 3, Taylor says implicitly that his main concern is to ensure that shipments arrive safely at their destination and that he is not convinced of ShipCo's reliability (lines 9–11). In contrast, Chris suggests that ShipCo can very well take over more responsibilities for shipments (lines 12–16). Similarly, in example E in the Appendix, Laura expresses implicitly her intention to reduce costs, while the intentions that John and Taylor articulate are to look professional and to ensure that shipments arrive safely at their destination. While in Vignette 3 distanced reflective talk allows the actors to align their understandings of the routine by agreeing that the best solution would be to test two alternative shipping providers, this is not the case in example E: after the lab meeting, Laura is still concerned about the cost of the membrane and she raises the issue again several weeks later.

Lastly, actors also use distanced reflective talk to inform and involve others who are not participating in routine performances: for example, in Vignette 3, Taylor and Carol, who do not prepare shipments, participate in the discussion and make suggestions on how to improve the routine's pattern. Similarly, in example F in the Appendix, John uses distanced reflective talk to inform lab employees who do not participate in the shipping routine about the impending changes in the routine's pattern as a consequence of CellCo's effort to avoid X-ray screening at the airport.

With regard to the implications of distanced reflective talk for routine change, our observations show that actors use talk to introduce changes to a routine's pattern, either to solve fundamental problems, as in Vignette 3, where the participants try to solve specific problems with ShipCo, or to improve a routine's pattern: in example F in the Appendix, actors try to improve the pattern of shipping cell tissues by avoiding X-ray screening at the airport.

In some cases, the actors may agree on the discussed changes, as in example F in the Appendix; in other cases, however, they may use talk to prevent changes: in example E in the Appendix, Taylor and John refuse Laura's suggestion to remove the membrane from the shipping routine and thus the established pattern remains unchanged. In these cases, the actors also used talk to enact power relations: because Taylor and John are both part of the management team and Laura is not, the arguments they expressed counted more than hers. Furthermore, distanced reflective talk allows actors to link wider interests to a routine's pattern. This is again exemplified in example E in the Appendix: Laura, Taylor and John negotiate whether the membrane should be used or not in the shipping routine not on the basis of how it is actually used in a specific performance, but on the basis of wider interests, such as costs, looking professional and safety.

In contrast to situated reflective talk, actors use distanced reflective talk to reflect on the ostensive aspect or possibly, on multiple ostensive aspects, if participants have divergent points of view (as in Vignette 3). The performative aspect remains in the background: actors refer to specific performances merely to illustrate, substantiate or examine general assertions about the routine's pattern. In Vignette 3, for example, Chris's reference to the failed shipment serves as a lead-in for a more general discussion about the problems with ShipCo. Similarly, John refers to another shipment (line 17) to substantiate the points he's about to make about ShipCo's hub.

2.4.4 Comparison of the Modes of Talk and Their Use in Routine Change

According to our observations, actors use the three modes of talk in different ways to bring about and affect routine change (see also the summary in Table 5). In enacting talk, actors do not use talk to thematize change. To initiate routine change through talk, actors switch to the situated reflective or distanced reflective mode. In these modes, actors use talk to draw the attention of others to specific aspects of a performance or to general properties of a routine's pattern and to jointly develop alternative patterns or courses of actions. Instead of individually deciding how to do things differently, actors use talk to coordinate their actions and to contemplate different alternatives before enacting them. Importantly, situated reflective and distanced reflective talk are associated with two different types of routine change: first, in the situated reflective mode actors use talk to perform routines flexibly. As Turner and Rindova (2012) have shown, without talk it may be difficult for actors to align their actions in specific performances. In that respect, situated reflective talk is conducive to the effectiveness and efficiency of specific performances (Bapuji et al., 2012) because it allows the participants to

Table 5: Modes of Talk and Their Use in Routine Change

Mode of talk	Enacting talk	Situated reflective talk	Distanced reflective talk
How actors use talk in relation to routines.	– To initiate a step in the enactment of the routine. – To exchange information about the task at hand.	– To point out aspects of the situation that are different from "regular" performances of the routine. – To suggest, jointly develop and negotiate different possible courses of action in the current performance. – To retrospectively acknowledge a different course of action – To explain to others how to enact the routine. – To articulate implicitly or explicitly their intentions for enacting the routine.	– To point out general properties of elements of the routine's pattern. – To associate elements of the routine's pattern with other aspects of the organization/ world. – To suggest, jointly develop and negotiate possible alternative patterns (by referring to other existing or imaginary contexts). – To articulate implicitly or explicitly and possibly align their understanding of and intentions with regard to the routine's pattern. – To retrospectively acknowledge variations in routine enactment – To inform and involve actors not participating in the enactment of the routine.
How actors use talk to affect routine change	– To enact the routine, not to thematize routine change.	– To solve problems and take advantage of opportunities in a specific situation. – To perform a routine flexibly; that is, to adapt it to a particular situation; or to prevent adaptation. – To link situational interests to a specific performance.	– To solve fundamental problems and improve the routine's pattern over time. – To agree on or to prevent changes to the routine's pattern in future performances. – To link wider interests to the routine's pattern.
How the ostensive and performative aspects of a routine are related in talk.	– Actors use talk as a tool in a specific performance; talk frequently marks an action as part of the routine.	– Actors use talk to reflect on the performative aspect; the ostensive aspect provides the background against which actors articulate how the performative aspect differs from the ostensive aspect.	– Actors use talk to reflect on the ostensive aspect(s); they refer to the performative aspect(s) in order to illustrate, substantiate and examine general assertions about the routine's pattern.
Implications of actors' use of talk for routine change	– The specific performance remains unchanged.	– The specific performance is changed. – Potential for routine drift from the original pattern over time.	– Changes are introduced to the routine's pattern that will affect future performances.

coordinate their actions and avoid disruptions.

Second, in the distanced reflective mode actors detach talk from a specific performance and introduce changes to a routine's pattern, which will affect future performances. Whereas situated reflective talk mediates temporary adaptations, actors use distanced reflective talk to fundamentally rethink a routine, to compare problems across different performances and to involve all the actors whose participation is necessary to change future performances. In Vignette 3, for example, the actors had already had several problems with ShipCo and in each case had used situated reflective talk to develop a situation-specific solution. However, solving the repeated problems with ShipCo required fundamentally rethinking the shipping routine: instead of using just one shipping provider for all shipments, as they had done in the past, the actors decided to use different providers for different types of shipments. If routine participants do not switch to distanced reflective talk and instead continue to adapt specific performances in situated reflective talk, either the routine will start to drift slowly from the original pattern or the established but problematic pattern will persist.

Our findings also show that situated reflective and distanced reflective talk open a routine to both situational and broader influences. The more actors use these modes of talk, the more situational and broader interests potentially affect the routine: In the situated reflective mode, actors can use talk to associate a specific performance with particular exigencies of the situation and with their own situational intentions, influencing how a performance is adapted to the situation. In this mode, the role of power dynamics and internal politics is more subtle because talk is limited to a specific performance. In contrast, when actors use distanced reflective talk, the routine becomes more susceptible to the influence of power dynamics and internal politics because talk manifests the routine's pattern, making it potentially contestable. In the distanced reflective mode, the actors associate a routine with other aspects of the organization or world at large that may not be necessarily relevant to the enactment of the routine. The actors may also use distanced reflective talk to refer to and draw ideas from other ostensive patterns, such as routines in other organizations. Furthermore, external actors who do not participate in specific performances may use distanced reflective talk to influence the routine's patterns in line with their personal interests.

The underlying reason why situated reflective and distanced reflective talk bring about different types of routine change and open routines to various influences in different ways is that the two modes of talk relate the performative and ostensive aspect of routines in different ways: situated reflective talk focuses on the performative aspect, while the ostensive aspect constitutes the background for articulating how the specific performance differs. In contrast,

distanced reflective talk focuses on the ostensive aspect(s), while the performative aspects enable actors to illustrate, substantiate and examine assertions about the routine's pattern. As we will explain in the next section, both modes of talk, often in combination, are important for routine change.

2.5 Second-Order Analysis: Linking the Three Modes of Talk

In our first-order analysis we identified how actors use different modes of talk to influence routine change. In this section, we extend this analysis by examining how switching between the three modes enables and constrains actors in the way they use talk (see also Table 6). We distinguish between switching to situated reflective or distanced reflective talk to initiate change and switching back to enact discussed changes, which involves bringing into the enactment of a routine the changes that have previously been discussed. On the basis of our findings, we develop a practice-theoretical model of the role of talk in routine change.

2.5.1 Triggers for Switching Modes of Talk to Initiate Change

Examining why actors switch from enacting talk to another mode to initiate change, we found that the triggers that prompt actors to switch to situated reflective talk originate in a specific performance, while the triggers that prompt them to switch to distanced reflective talk originate either in multiple performances or outside the routine.

Triggers for Switching to Situated Reflective Talk

In our observations we identified three types of triggers that prompted actors to switch from enacting to situated reflective talk to initiate change. First, actors switched to situated reflective talk when they recognized a problem in a performance that prevented them from proceeding and thus demanded that they coordinate their actions. In Vignette 2, for example, switching to situated reflective talk was triggered by the unavailability of Susan the next day. Second, actors switched to situated reflective talk when they recognized an opportunity to improve a performance that required them to depart from the established pattern and that the actions of several actors be coordinated. For instance, in example D in the Appendix, John switches to situated reflective talk because he recognizes the opportunity to reduce costs by taking 30 individual free samples with him when he goes on vacation to the US. To enact this opportunity, however, John needs to coordinate his actions with Susan and Chris. Third, actors switched to situated reflective talk when their intentions related to a specific performance changed. For instance, during the preparation of a cell tissue shipment, Taylor,

Table 6: Switching between Modes of Talk

Switching to initiate change	**Switching from enacting talk to situated reflective talk**	**Switching from a specific performance to distanced reflective talk**
Triggers for switching	*The trigger originates in a specific performance:* – Actors identify a problem that is related to the specific performance. – Actors identify an opportunity that is related to the specific performance. – Actors change intentions in relation to the specific performance.	*The trigger originates in the enactment of the routine:* – Actors identify a repeated or fundamental problem that is related to the routine's pattern. – Actors recognize an opportunity or have the goal to improve future performances. – Actors change intentions about future performances. *The trigger originates outside the routine:* – External actors raise a new problem or opportunity. – Actors discuss a topics not immediately related to the routine that sparks an association with the routine ⟹ talk itself may trigger routine change.
Conditions that allow the switch*	– Other routine participants that are required for coordinating actions are physically available and make time to discuss potential changes (conditioned by external context). – Actors are willing to reflect on and possibly change the specific performance. ⟹ *Switching occurs naturally.*	– Actors have or are able to create space and time for distanced reflective talk with other relevant actors (conditioned by external context) – Actors are willing to reflect on and possibly change the routine's pattern. – Actors are able to put aside the immediate practical concerns of a specific performance (conditioned by routine enactment). ⟹ *Switching more effortful; easier if institutionalized spaces exist.*
Switching to enact discussed changes	**Switching back from situated reflective talk to enactment**	**Switching back from distanced reflective talk to a specific performance**
Incorporating discussed changes in the enactment of routines (through enacting talk and other actions)	Unproblematic because actors use talk to discuss the next steps in the current performance; the discussed changes can be immediately enacted.	Possibly problematic because – the discussed changes may not be sufficiently specified to be immediately enacted – not all actors may be willing to or remember to enact them. ⟹ Actors use situated reflective talk to – remind others of and to reconfirm previously discussed changes – recontextualize and elaborate previously discussed changes – modify previously discussed changes. The background of situated reflective talk is not the established pattern, but the envisioned pattern. ⟹ *Potential for routine drift from the envisioned pattern.*

* All conditions have to present for actors to accomplish the switch

the head of R&D, approached John, who was finalizing the shipment, to ask him to include four specialized lids that would improve tissue growth. At CellCo, these lids were not a regular part of cell tissue shipments, but because the tissues that would be shipped were more difficult to cultivate, Taylor wanted to include the lids. Overall, these examples demonstrate that switching to situated reflective talk to initiate change is triggered by a need to coordinate and align the actions of several actors in a particular performance.

Triggers for Switching to Distanced Reflective Talk

Our analysis reveals that the triggers that prompt actors to switch from a specific performance to distanced reflective talk originate either in issues spanning multiple performances or outside the routine. We identified three kinds of triggers that were associated with the enactment of the routine. First, actors switched to distanced reflective talk when they encountered similar problems in several performances or when they identified a fundamental problem in the routine's pattern. In Vignette 3, for example, the switch to distanced reflective talk is triggered by the repeated problems with the shipping provider ShipCo. Second, actors switched to distanced reflective talk when they wished to improve or recognized an opportunity to improve future performances, not just the current performance. For instance, when Chris had the idea to use the data loggers that were normally used for the demo shipments also for regular cell tissue shipments, he switched to distanced reflective talk. This would make it possible to monitor the temperature inside the shipment and indicate to customers whether they could still use the cell tissues they received. Third, actors switched to distanced reflective talk when their intentions about future performances changed. For example, in the fourth month of field observations, Chris, who was also responsible for sales, decided to make the plate shipments look more professional to make a better impression on customers. Thus, using distanced reflective talk, Chris suggested to Susan and John that they should design and use customized boxes with CellCo's logo for plate shipments.

In addition, we identified two triggers that originated outside the routine and prompted actors to switch to distanced reflective talk. In the first case, external actors triggered the switch to distanced reflective talk by raising a problem or an opportunity related to a routine. In example F in the Appendix, Michael (head of product management) and Stephen (product manager) trigger a switch to distanced reflective talk about shipping by pointing out a potential problem; namely, that X-rays, as they learned at a conference, have a significant negative impact on cell tissues. In the second case, a discussion about a different topic unrelated to shipping sparked an association with the routine, and triggered a switch to distanced reflective talk about the routine. In one of the lab meetings, CellCo employees were

discussing how customer projects were scheduled and staffed. When the discussion turned to the last stage of a particular project that required shipping cell tissues to a particular customer, this prompted John to remind his colleagues to notify him of upcoming shipments as soon as possible. This illustrates that talk is not simply a means that actors can use to influence routine change, but may trigger routine change in its own right.

2.5.2 Conditions for Switching Modes of Talk to Initiate Change

While the triggers that we have identified may prompt actors to switch the mode of talk to initiate change, they do not determine it: actors only switch the mode of talk under certain conditions.

Conditions for Switching to Situated Reflective Talk

In our observations, we identified two distinct conditions that both had to be present so that actors can switch from enacting to situated reflective talk. First, other routine participants, who were required for the coordination of actions in the specific performance, had to be physically available and make time for discussing potential changes. Second, these participants had to be willing to reflect on and possibly change the specific performance. Both conditions were present in examples C and D in the Appendix, as well as in Vignette 2: in the latter case, Chris was able to reach Susan and had time to talk to her about the plate shipment that needed to be finalized, and Susan was willing to discuss with Chris how to finalize the shipment. Conversely, switching to situated reflective talk was impeded when key routine participants were not available or not willing to negotiate a change to a performance. For example, when John received three order process routers for plate shipments to the same company, albeit to different departments, he recognized the opportunity to combine these shipments to save costs, but because he was not able to reach either Chris or the sales agent who had initiated the shipment (both were at a fair abroad), he was not able to discuss his intention in situated reflective talk. Only three days later, when Chris returned from the fair, was John able to discuss with him, in situated reflective talk, how to combine the three shipments. Overall, we noted that switching to situated reflective talk occurred fairly naturally because the routine participants often shared the immediate practical concerns that related to a specific performance and were thus more frequently available and more willing to discuss routine change than in cases where they switched to distanced reflective talk.

Conditions for Switching to Distanced Reflective Talk

Switching from a specific performance to distanced reflective talk to initiate change tends to be more effortful and challenging than switching to situated reflected talk. We identified three

distinct conditions that together had to be present for actors to accomplish this switch. First, other actors with whom the intended changes would have to be discussed had to be available, or actors had to be able to create the time and space for distanced reflective talk. Second, the actors had to be willing to reflect on and possibly change the routine's pattern. Third, routine participants had to be able to put aside their immediate practical concerns in a specific routine performance. These three conditions were influenced respectively by the external context (i.e., available time and space), the relevant actors (i.e., their willingness to consider changes) and the enactment of the routine (immediate practical concerns).

The case of scheduling shipments illustrates aptly how switching to distanced reflective talk was delayed in the absence of these conditions. At CellCo, Tuesdays were dedicated to shipments to allow staff to prepare cell tissues on the preceding day and ensure that the shipment would reach the customer before the weekend. As the number of shipments increased over time, John, who was then primarily responsible for them, found it increasingly difficult to prepare the shipments by 1 p.m., when the shipping provider normally picked them up. When John experienced time constraints while preparing shipments—in particular, plate shipments—he often negotiated in situated reflective talk with either Chris or the sales agent the postponement of specific plate shipments. When CellCo moved to another location, time constraints increased even more, because the shipping provider now picked up the shipments at 11 a.m. In one management meeting, John put the scheduling of shipments as a separate point on the agenda. In the distanced reflective mode, the management team agreed that time-critical (i.e., biological) shipments needed to be finalized on Mondays and Tuesdays, whereas other shipments (i.e., plates), could be prepared between Wednesday and Friday. To ease the pressure on John, the team decided that shipments that were not time-critical should not be shipped on Mondays and Tuesdays. In subsequent performances there were no discussions about when a plate shipment should be finalized and John's time constraints were eased.

In this example, two conditions for switching to distanced reflective talk were initially absent: first, there was a lack of time and space to talk about John's time constraints in finalizing shipments. Although at CellCo problems can be discussed both during management meetings and during lab meetings, these meetings follow a set agenda that does not include the shipping routine. This means that, to raise other issues in these meetings, individuals have to make an effort to create the necessary space. Second, John was frequently preoccupied with finalizing a shipment in time and was not able to put his immediate concerns aside to talk about his time constraints in the distanced reflective mode. After finalizing a shipment, John typically turned to other pressing concerns and lost the incentive to raise the issue in distanced

reflective talk. Only after John's difficulties in finalizing shipments increased substantially did he create time and space to talk about this problem by putting the topic on the agenda of the management meeting.

Our observations indicate that switching to the distanced reflective mode becomes easier if there is a setting outside the routine that supports talking about the routine. For example, at CellCo the lab meeting constitutes a space where lab employees discuss problems related to lab routines. Similarly, several studies have identified institutionalized spaces in which actors can talk about routines from a distance, such as debriefing meetings (Edmondson et al., 2001) or strategy workshops (Hendry & Seidl, 2003).

While we observed several delays in switching to distanced reflective talk because the first and the third condition were absent—i.e., because of a lack of space and time and/ or because of the inability of actors to put immediate practical concerns aside—the second condition for switching to distanced reflective talk was typically present: at CellCo, the actors were typically willing to reflect on and change routines. Nevertheless, we also observed rare instances in which actors refused to switch to distanced reflective talk (e.g., "Heather, we are not going to discuss this anymore. *Just do it!*").

2.5.3 Switching Modes of Talk to Enact Discussed Changes

As actors continue to enact a routine, any changes that have been discussed in situated reflective or distanced reflective talk have to be brought into the enactment of the routine. Switching back to the enactment mode from situated reflective talk is typically unproblematic because the discussed changes are immediately relevant to the specific performance; actors continue to enact the routine once they have agreed on the next steps and can directly enact these changes. In Vignette 2, for example, Chris can go on to finalize the plate shipment the next day. In contrast, bringing into a specific performance changes that have been discussed in the distanced reflective mode can be more problematic because these changes refer to the routine's abstract pattern and may have not been specified sufficiently for actors to be able to enact them immediately. Furthermore, as many studies on routines point out, not all actors remember or are willing to enact the discussed changes (see also Feldman, 2003; Pentland & Feldman, 2008a). There are many reasons why routine participants do or do not enact proposed changes and they are not related to talk as such. As other researchers who have studied routines (e.g., Edmondson et al., 2001; Lazaric & Denis, 2005; Rerup & Feldman, 2011), we too observed actors who immediately enacted changes that had been discussed in distanced reflective talk, as well as actors who did not enact the proposed changes at all.

However, our observations show that situated reflective talk plays an important role in recontextualizing in specific performances what has been discussed previously in distanced reflective talk.

The importance of bringing into a specific performance changes that have been discussed in distanced reflective talk is illustrated clearly in an example involving Henry, the new inside sales support. When Henry was hired, the management team decided that he should be the only one to fill in the order process router; first, to relieve the CEO and sales agent of this task and second, to ensure that there would be no mistakes or delays when the documents were filled in. As agreed, Henry received the orders from the sales team, but the scientists, who were also occasionally involved in the sales process, continued to fill in the routers themselves. As Henry observed: "It's not the case that the order always comes from the sales manager. It may also come from a scientist, who then fills in the router—maybe because he likes doing it, maybe because he thinks he knows everything from A to Z, or maybe because I am not available on Mondays." When Henry realized that he could not enforce the envisioned changes, he tried a different approach: in one instance, when, again, a scientist filled in the router, instead of asking Henry to do it, he said to him: "If you want to fill this in immediately, it's not a problem. But let's take a look at this together, so you can see what [details] I need in order to process the router efficiently." In situated reflective talk, Henry then explained to the scientist which details were important for his work. In subsequent performances, the scientists continued to fill in the router occasionally, but in a way that allowed Henry to do his work.

This example demonstrates two important ways in which situated reflective talk enables actors to bring into a specific performance changes that have been discussed in distanced reflective talk: first, actors may use situated reflective talk to elaborate on and specify the proposed changes. For example, Henry used situated reflective talk to articulate what the scientists needed to pay attention to when they filled in the router. Second, actors may use situated reflective talk to modify previously discussed changes in a way that enables them and other actors to enact these changes. For example, by acknowledging in situated reflective talk that it was not "a problem" if the scientist filled in the router, provided that this was done in a particular way, Henry modified the envisioned changes: not Henry alone, but both Henry and the scientists could fill in the router. As in Vignette 2, in this example the focus of situated reflective talk is on the specific performance. However, the background of talk is no longer the established pattern of the routine but the envisioned pattern that has been previously discussed in distanced reflective talk. If actors continue to enact in future

performances the modified changes, the routine's enacted pattern drifts away from the pattern that had been previously envisioned in distanced reflective talk. In the case of Henry, we did observe routine drift: over time, both Henry and the scientists regularly filled in the router, so the modified change became established.

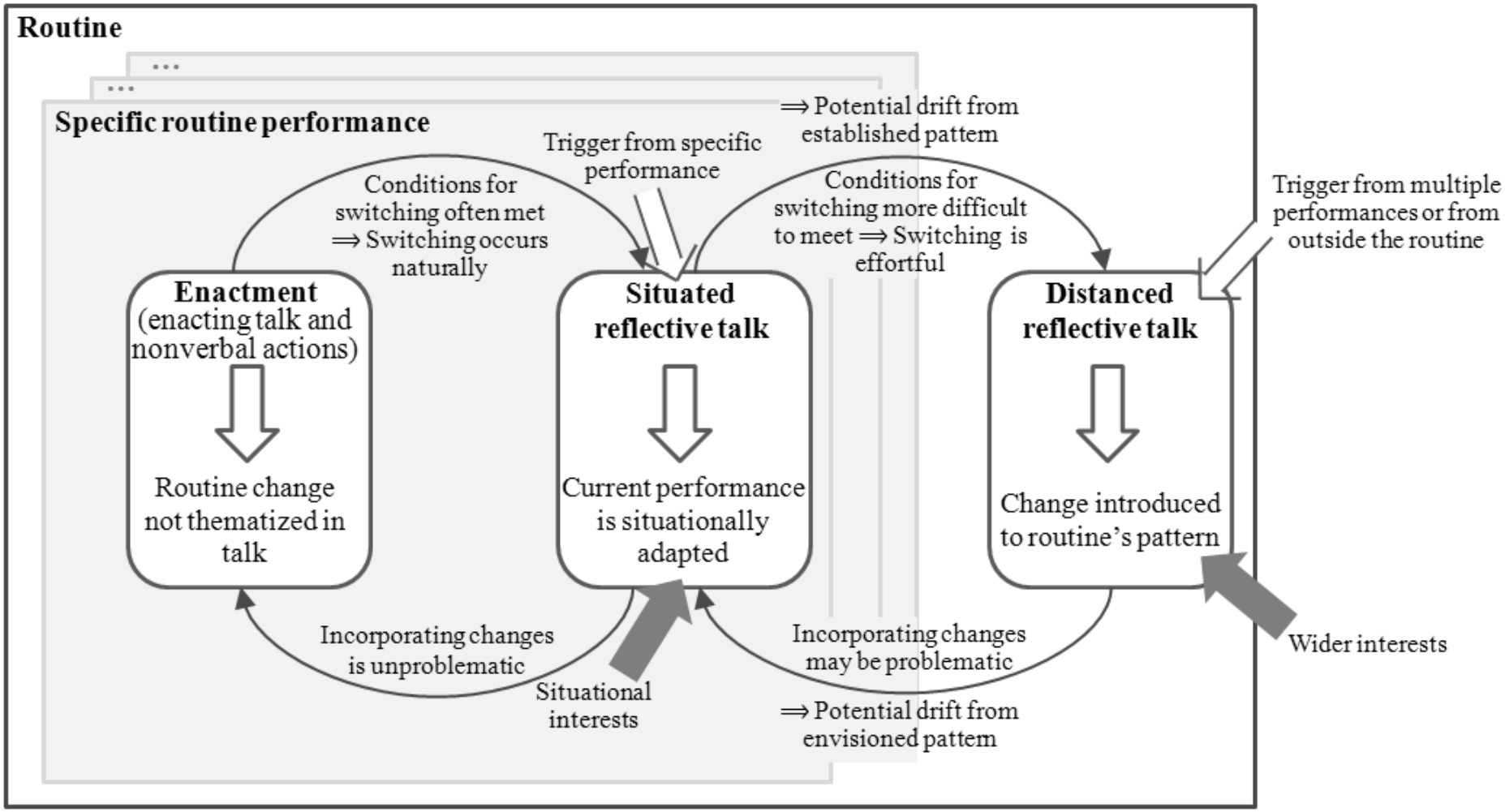
Lastly, routine participants may also use situated reflective talk to remind others of previously agreed changes and to reconfirm such changes. For example, when the router was newly introduced into the shipping routine, John had to remind other routine participants during several performances to fill in the router to initiate the shipment (see also example C in the Appendix). Overall, our observations show that situated reflective talk is not a prerequisite for but facilitates the enactment of changes discussed in distanced reflective talk by recontextualizing them and by enabling routine participants to remind others of these changes and to adapt them to specific performances.

2.5.4 Towards a Practice-Theoretical Model of the Role of Talk in Routine Change

In Figure 3, we bring together our findings on how actors use talk to influence routine change and visualize how we conceptualize enactment (comprised of enacting talk and other actions), situated reflective talk and distanced reflective talk as distinct activities that constitute a routine. Both enactment and situated reflective talk are activities that take place in a specific performance, while distanced reflective talk, although not part of a particular performance, constitutes an important activity through which actors create, maintain and change routines. Importantly, through these three modes of talk actors may influence routine change in distinct ways: in the enacting mode, actors do not use talk to thematize change, but rather as a tool for enacting the routine. When actors use talk to initiate change, they switch to one of the other two modes: either to situated reflective talk, to perform a routine flexibly in a particular situation, or distanced reflective talk, to introduce changes to the routine's pattern that would be enacted in future performances.

Figure 3 also depicts how the way in which the actors use talk is conditioned by their ability to switch between the different modes of talk. When the conditions for switching are not present, actors do not switch the mode of talk, which limits their scope for influencing routine change through talk. Notably, we rarely observed a direct switch from enactment to distanced reflective talk and back. Instead, we found that situated reflective talk often mediates the other two modes of talk: first, routine participants use situated reflective talk repetitively to refer to similar problems in specific performances, which eventually trigger a switch to distanced reflective talk. Second, in switching back from distanced reflective talk to

Figure 3: A Practice-Theoretical Model of the Role of Talk in Routine Change



a specific performance, situated reflective talk recontextualizes the previously discussed changes in that performance. Thus, our results indicate that situated reflective talk is important in reducing the gap between envisioned and enacted changes.

The mediating role of situated reflective talk and its interplay with distanced reflective talk also reflects the challenges of fundamental routine change, which requires that actors discuss the routine's pattern independently of any specific performance (i.e., distanced reflective talk) and, at the same time, that envisioned changes be recontextualized to the specific performance (i.e., situated reflective talk). Thus both types of talk are important for achieving routine change, and, as a result, actors continuously switch between them. Furthermore, the two types of routine drift depicted in Figure 3 manifest the challenges of fundamental change: on the one hand, if actors do not switch to distanced reflective talk but continue to adapt performances in situated reflective talk, the routine, over time, drifts away from its original pattern. On the other hand, if actors use situated reflective talk to modify envisioned changes, the routine may drift away from the pattern that has been envisioned in distanced reflective talk.

2.6 Discussion

In this paper we have addressed the question of how actors use talk to influence routine change. While practice-based studies on routines show that talk is a pervasive feature of routines, the existing literature so far does not theorize the role of talk in routines and does not recognize that there are different ways in which actors use talk to bring about change. Drawing on Heidegger's distinction between different modes of talk, we find that not all talk is alike: actors use talk in different ways to focus on the task at hand, to perform routines flexibly in a given situation or to introduce changes to the routine's pattern for future performances. Switching between different modes of talk is the key mechanism that conditions how actors use talk to affect routine change. Our study demonstrates that, although actors may obviously use other means than talk to bring about and affect routine change, talk is often involved in routine change because it is an efficient means of coordinating and aligning the actions of several actors; both routine participants and external actors.

Theorizing talk as a means by which actors influence routine change complements and extends the literature on routine change: previous studies have shown that routines change as a result of the intentions and temporal orientations of the actors involved (Howard-Grenville, 2005) or as a result of actors' ideals and new opportunities (Feldman, 2000). The triggers that

prompt actors to switch between modes of talk reflect these earlier findings; however, we extend these findings by identifying talk itself as a trigger for routine change in cases where talk about something unrelated to a routine sparks an association with that routine. Furthermore, we found that the conditions that underlie routine change through talk constitute an additional threshold for why routines do not change (Parmigiani & Howard-Grenville, 2011): routine change may be delayed or may be prevented when actors whose presence is necessary for routine change are not available or when routine participants are not able to put their immediate practical concerns aside. More generally, the findings of our study have implications for four main concerns in the literature: (1) reflection in routines, (2) the embeddedness of routines, (3) the relation between the ostensive and performative aspects and (4) the evolutionary model of routine change. We will discuss each aspect below.

2.6.1 The Role of Reflection in Routines

Feldman (2000: 625) was the first to point out that "organizational routines involve people doing things, reflecting on what they are doing, and doing different things (or doing the same things differently) as a result of the reflection." Pentland and Feldman (2005: 805) added that "opportunities to reflect with other participants in the routine can have similar effects" as reflecting on the routine individually. Both Edmondson and her colleagues (2001) and Obstfeld (2012) have emphasized how group-level reflection about routines is a crucial factor in routine change, because it fosters learning and the articulation of knowledge within routines. Others (e.g., Feldman & Rafaeli, 2002; Howard-Grenville, 2005) have underlined that collective discussions are important for creating shared understandings among routine participants.

In line with this literature, our study highlights the importance of collective reflection and demonstrates how the ways in which actors use talk enable them to reflect on the routine and to articulate knowledge about and create shared understandings of the routine. Our findings extend existing studies by distinguishing between two types of reflection: in situated reflective talk, actors reflect on a specific performance, while in distanced reflective talk, they reflect on the overall pattern of the routine and how it relates to other aspects of the organization. Importantly, and as Dreyfus (1991) and Tsoukas (2005) have pointed out, switching between these two types of reflection in talk "changes the character of the activity" (Tsoukas, 2005: 147): in situated reflective talk, actors are engaged in enacting the routine and focused on achieving the intended outcome of the routine, e.g., finalizing a shipment. In contrast, in distanced reflective talk, actors focus on improving or preserving the routine's

pattern. Most studies to date focus implicitly on how actors reflect on a routine's overall pattern without paying attention to how actors reflect on a specific performance (e.g., Edmondson et al., 2001; Obstfeld, 2012). However, as our findings show, the latter process enables actors to incorporate the envisioned changes in a specific performance and is thus of particular importance.

Due to our focus on organizational routines as repetitive patterns of action involving multiple actors, our findings differ in two important ways from Heidegger's conceptualization of actors' reflexivity: first, as we noted earlier, for Heidegger "absorbed coping" is the primary mode of being while detached reflection is deficient (Dreyfus, 1991: 212) because it masks the practical relations that actors experience in everyday activity (Sandberg & Tsoukas, 2011) and requires "a withholding of the practical attitude" (Dreyfus, 1991: 79). Our findings, however, demonstrate that distanced reflective talk is crucial to the process through which a routine is constituted: through distanced reflective talk, actors articulate their understanding of the routine's pattern and, importantly, introduce changes for future performances of this routine. Thus, using distanced reflective talk allows them to negotiate changes that go beyond a specific performance and to involve external actors who have a stake in the routine or are able to improve it. Second, Heidegger focuses on breakdowns as triggers of the switch to deliberate or detached reflection (Dreyfus, 1991: 70). In contrast, our findings show that both actors' intentions and recognizing opportunities for change can work as triggers that prompt actors to switch to a different level of reflection. We also found that talk as such can trigger a change in reflexivity: when external actors cause routine participants to switch to distanced reflective talk or when the discussion of a topic unrelated to the routine sparks an association with the routine, actors start to reflect on the routine's pattern and may recognize problems or opportunities they might have not recognized otherwise.

Our findings on reflection in routines also complement studies on the connections between routine participants (Feldman & Rafaeli, 2002; Turner & Rindova, 2012). These studies emphasize that connections are essential because they allow actors "to have repeated verbal and nonverbal communication" (Feldman & Rafaeli, 2002: 315) and enable routine participants to coalesce their actions and to reconstitute the routine by envisioning and implementing change (Turner & Rindova, 2012: 42). Our study specifies the role of connections by revealing that connections among actors influence the conditions that enable them to switch between different modes of talk, and thus how and to what extent they reflect on the routine in talk. In particular, connections affect whether routine participants can reach other relevant actors, as well as the latter's willingness to reflect on the routine. Similarly,

Turner and Rindova (2012) find that the lack of connections between customers and actors involved in the waste collection routine prevented the latter from flexibly performing this routine; they also noted that the social capital that such connections generate made it easier for the actors to modify and to accept revised routines.

2.6.2 The Embeddedness of Routines

Many studies recognize that routines are embedded in a specific context and that this context shapes how routines are performed and whether they change over time (Cohendet & Llerena, 2003; Feldman, 2003; Howard-Grenville, 2005). Howard-Grenville (2005: 631) conceptualized embeddedness as "the overlap between artifacts and expectations generated from routine performances and those generated from the enactment of other structures." She suggested that a strongly embedded routine may be quite difficult to change over time, while a weakly embedded routine is more likely to change.

In line with this literature, our study recognizes the importance of links between routines and other structures. However, our focus on talk in routines sheds a different light on embeddedness: our findings reveal that embeddedness is not a given characteristic of routines, but that it is partly created, maintained and modified through talk. In particular, we found that actors use distanced reflective talk to associate routines with other aspects of the organization that are often not immediately relevant to individual performances. For example, other studies indicate that actors may use talk to create associations between a routine and the managerial philosophy behind a certain technology (Labatut et al., 2011), the vision of an organization (Rerup & Feldman, 2011), organizational norms and goals or professional criteria (Brown & Lewis, 2011). Through distanced reflective talk, the expectations that are generated by other routines (Howard-Grenville, 2005) or organizational schemas (Rerup & Feldman, 2011) can become associated with the pattern of the focal routine.

Our analysis of how actors used different modes of talk reveals two distinct dimensions of the embeddedness of routines: first, situated reflective talk focuses on the embeddedness of the performative aspect—in other words, on how a routine performance is influenced by the particular context in which it is enacted. This dimension of embeddedness brings to light the interdependence between the performances of a routine with other performances in an organization. Second, distanced reflective talk focuses on the embeddedness of the ostensive aspect; that is, on the interdependence between the routine's pattern and other patterns and structures in the organization. While these two dimensions of embeddedness may certainly overlap, they may also differ. For example, in the case of Henry,

distanced reflective talk focused primarily on the interdependence between Henry and the sales team in relation to filling in the router, while situated reflective talk revealed the interdependence between Henry and the scientists, who also occasionally filled in the router.

2.6.3 The Relation between the Ostensive and the Performative Aspects of Routines

Since the influential study of Feldman and Pentland (2003), scholars have come to a broad consensus that the interplay between the ostensive and performative aspects drives both routine stability and change (e.g., Dionysiou & Tsoukas, 2013; Howard-Grenville, 2005; Turner & Fern, 2012; Zbaracki & Bergen, 2010): actors use the ostensive aspect to guide, account for and refer to specific performances, while the performative aspect creates, maintains and modifies the ostensive aspect. Our own observations are broadly in line with this view. For example, we noted that actors used the ostensive aspect of the shipping routine to guide individual performances by pointing out to others what actions should be taken. We also found that by articulating patterns of the shipping routine in distanced reflective talk, these actors contributed to creating the ostensive aspect of the routine.

At the same time, our findings suggest that the relation of the ostensive to the performative aspect of routines has broader effects than those identified in the existing literature. More specifically, we found that, first, actors use the ostensive aspect not only to account for specific performances, but also to justify why deviating from the established pattern is necessary. By pointing out how the current situation differs from the established pattern, actors are thus able to perform routines flexibly. Second, in distanced reflective talk actors use the ostensive aspect to point out problems or opportunities related to the established pattern and to argue for introducing changes that would affect future performances. In this context, actors may also refer to the ostensive aspects of other routines (e.g., at a different organization), which enables them to identify and suggest alternative patterns. Third, in distanced reflective talk, actors employ the ostensive aspect to prevent changes to future performances by arguing why the established pattern should be maintained. Lastly, actors also use the ostensive aspect to involve external actors in the process of changing a routine's established pattern. Overall, these findings suggest that, in contrast to the consensus in the literature that depicts the performative aspect as a driver of routine change, in talk actors may also use the ostensive aspect to bring about or prevent changes to a routine.

2.6.4 Evolutionary Model of Routine Change

Feldman and Pentland (2003) have suggested that the recursive relation between the ostensive and the performative aspect of routines constitutes an evolutionary mechanism of variation and selective retention that drives routine change. As Pentland and his colleagues (2012: 1489) note, the performative aspect constitutes the "concrete level [...] that may exhibit variations" and the ostensive aspect constitutes the "abstract level" in which "current actions can be selectively retained."

In our own study we also observed numerous variations in the shipping routine and the selective retention of some of these variations; however, our analysis sheds a different light on these mechanisms. In particular, our observations demonstrate that talk is an important means by which actors can generate and select variations. While we agree that "variation can come from many sources" (Pentland et al., 2012: 1502), we find that actors often use talk to develop jointly these variations. Moreover, actors also use talk to select the variations they want to enact. This also implies that there exists a greater number of variations than currently depicted in the literature: While the literature focuses on those variations that are actually performed, we find that actors use talk to articulate more variations and to eliminate some of these variations *before* enacting them. In addition, our observations show that there can be variations not only in the performative aspect, but also in the ostensive aspect of a routine: in distanced reflective talk, actors articulate alternative patterns of how the routine could be enacted. These variations are selected through the performative aspect: routine participants used both situated reflective talk and enactment to examine the usefulness and appropriateness of the envisioned pattern and to decide whether to enact it or not in the future.

2.6.5 Limitations and Opportunities for Future Research

As is typical of qualitative case studies, this paper has several limitations, which at the same time provide opportunities for further research. First, our study focuses on the role of talk in routine change in a specific organization: CellCo is a small company with an entrepreneurial culture, very team-oriented leadership and few political struggles amongst its members. In this type of setting, frequent oral communication between organizational members is possible and even encouraged. In other settings, especially in larger organizations, talk may be less prevalent or may be replaced by other means of communication, such as documents or emails. Furthermore, in other organizations, speaking up and pointing out problems may be discouraged (e.g., Edmondson et al., 2001); this would limit the possibilities in which actors can use talk to initiate routine change. In light of this, future works could extend this study by

comparing the role of talk in different empirical contexts, focusing, for example, on how power relations, the organizational culture or leadership influence how and to what extent actors use talk to influence routine change.

Second, we focused our analysis on a specific aspect of communication; namely, on how talk relates to a particular routine. Future studies could investigate the impact of other aspects of communication on routine dynamics. One promising avenue for further work is exploring how rhetoric in general, i.e., the language of persuasion (Watson, 1995), and rhetorical styles (Samra-Fredericks, 2003) in particular, influence the representation of routines in distanced reflective talk. Obstfeld (2012: 1584), for example, has indicated that, in their effort to change routines, actors may turn to "taglines," i.e., slogans, to make their point, while Feldman (2000) points towards analyzing metaphors and analogies. Combining a narrative perspective with the Actor Network Theory perspective, as Feldman and Pentland (2005; 2008) have suggested, could also prove fruitful in this line of research. As Pentland and Feldman (2008b: 286) argue, "the ostensive [can be conceptualized] as a narrative—a story or stories about how work gets done [...]. These stories imply connections between actors, actions and artifacts that enable us to recognize and reproduce the performances." Future studies could thus examine how the ostensive aspect of routines is narratively constructed in talk through the connections between different actors and artifacts and in what ways it is associated with other networks of actors and artifacts.

2.7 Conclusion

The importance of naturally occurring talk has been acknowledged frequently in organization studies; as Boden (1994: 1) points out, "talk is at the heart of all organizations." Surprisingly, the practice-theoretical approach to organizational routines has neglected so far the role of talk in creating, enacting and changing routines. This paper has sought to address this apparent gap by examining how the participants in routines and other actors use talk to influence routine change. Building on Heidegger's practice-theoretical approach to language use, we identified three distinct modes of talk that enable actors to enact a routine, adapt a specific performance to a situational context, or introduce lasting changes to the routine's pattern. The processual model we developed shows how the conditions that allow actors to switch between modes of talk influence the extent to which actors can use talk to affect routine change. Our model also shows that, by combining different modes of talk sequentially, actors can overcome the challenges of fundamental routine change. While we

certainly agree that actors not only use talk, but also *nonverbal* actions to change routines, our findings show *how* actors' use of talk interacts with these other actions and how they use it to generate and/ or select actions that change routines.

By advancing a novel perspective on organizational routines, our study makes three distinct contributions to the literature. First, we extend the existing evolutionary model of routine change by theorizing talk as an important means that enables actors to generate and select variations in routines. Second, we advance the understanding of routine dynamics by highlighting how talk enables new ways of relating ostensive and performative aspects to each other. Finally, we demonstrate that embeddedness is not a given characteristic of routines, but partly created, maintained and modified through talk.

Endnotes

[i] CellCo is a pseudonym. The name of the company and its members have been changed to protect their identity.

[ii] This distinction was evident even in the kind of jokes actors told. For example, in distanced reflective talk, John joked about his role as a safety officer: "This means that, if the plane blows up because there were explosives in the package, then you can visit me in prison, if at all." In contrast, when preparing a shipment, John took his role as a safety officer very serious and would have never told such a joke.

Funding

This work was supported by the Swiss National Science Foundation (Grant No. 100014_135403).

References

Alvesson, M., & Kärreman, D. 2000. Taking the Linguistic Turn in Organizational Research: Challenges, Responses, Consequences. ***The Journal of Applied Behavioral Science***, 36(2): 136–158.

Anand, G., Gray, J., & Siemsen, E. 2012. Decay, Shock, and Renewal: Operational Routines and Process Entropy in the Pharmaceutical Industry. ***Organization Science***, 23(6): 1700–1716.

Austin, J. L. 1962. ***How to do things with words***. Oxford: Clarendon.

Bakhtin, M. M. 1981. ***The dialogic imagination***: ***Four essays*** (6th ed.). Austin: University of Texas Press.

Bakhtin, M. M. 1986. ***Speech genres and other late essays*** (1st ed.). Austin: University of Texas Press.

Bapuji, H., Hora, M., & Saeed, A. M. 2012. Intentions, Intermediaries, and Interaction: Examining the Emergence of Routines. ***Journal of Management Studies***, 49(8): 1586–1607.

Berger, P. L., & Luckmann, T. 1966. ***The social construction of reality***: ***A treatise in the sociology of knowledge*** (1st ed.). Garden City N.Y: Doubleday.

Boden, D. 1994. ***The Business of Talk***: ***Organizations in Action***. London: Polity Press.

Brown, A. D., & Lewis, M. A. 2011. Identities, Discipline and Routines. ***Organization Studies***, 32(7): 871–895.

Cacciatori, E. 2012. Resolving Conflict in Problem-Solving: Systems of Artefacts in the Development of New Routines. ***Journal of Management Studies***, 49(8): 1559–1585.

Chia, R., & Holt, R. 2006. Strategy as Practical Coping: A Heideggerian Perspective. ***Organization Studies***, 27(5): 635–655.

Cohendet, P., & Llerena, P. 2003. Routines and incentives: the role of communities in the firm. ***Industrial and Corporate Change***, 12(2): 271–297.

Cooren, F. 2000. ***The Organizing Property of Communication***. Amsterdam & Philadelphia: John Benjamins.

Cooren, F., Kuhn, T., Cornelissen, J. P., & Clark, T. 2011. Communication, Organizing and Organization: An Overview and Introduction to the Special Issue. ***Organization Studies***, 32(9): 1149–1170.

Cyert, R. M., & March, J. G. 1963. ***A behavioral theory of the firm***. New Jersey, USA: Prentice-Hall Inc.

D'Adderio, L. 2003. Configuring software, reconfiguring memories: the influence of integrated systems on the reproduction of knowledge and routines. ***Industrial and Corporate Change***, 12(2): 321–350.

Dionysiou, D., & Tsoukas, H. 2013. Understanding the (Re)creation of Routines from Within: A Symbolic Interactionist Perspective. ***Academy of Management Review***, 38(2): 181–205.

Drew, P., & Sorjonen, M.-L. 1997. Institutional dialogue. In T. van Dijk (Ed.), ***Discourse as Social Interaction***: 92–118. London: Sage Publications.

Dreyfus, H. L. 1991. ***Being-in-the-World***. Cambridge, MA: MIT Press.

Dreyfus, H. L. 2000. Responses. In J. Malpas, M. A. Wrathall & H. L. Dreyfus (Eds.), ***Heidegger, Coping and Cognitive Science: Essays in honor of Hubert L. Dreyfus***: 313–349. Cambridge Mass: The MIT Press.

Dreyfus, H. L., & Dreyfus, S. E. 2005. Peripheral Vision: Expertise in Real World Contexts. ***Organization Studies***, 26(5): 779–792.

Edmondson, A. C., Bohmer, R. M., & Pisano, G. P. 2001. Disrupted Routines: Team Learning and New Technology Implementation in Hospitals. ***Administrative Science Quarterly***, 46(4): 685–716.

Emerson, R. 1995. ***Writing Ethnographic Fieldnotes***. Chicago: The University of Chicago Press.
Enfield, N. J. 2013. Reference in Conversation. In J. Sidnell & T. Stivers (Eds.), ***Handbook of Conversation Analysis***: 433–454: Blackwell Publishers.
Fairclough, N. 1992. ***Discourse and social change***. Cambridge, UK, Cambridge, MA: Polity Press.
Feldman, M. S. 2000a. Organizational Routines as a Source of Continuous Change. ***Organization Science***, 11(6): 611–629.
Feldman, M. S. 2003b. A performative perspective on stability and change in organizational routines. ***Industrial and Corporate Change***, 12(4): 727–752.
Feldman, M. S., & Orlikowski, W. J. 2011. Practicing Theory and Theorizing Practice. ***Organization Science***, 22(5): 1240–1253.
Feldman, M. S., & Pentland, B. T. 2003. Reconceptualizing Organizational Routines as a Source of Flexibility and Change. ***Administrative Science Quarterly***, 48(1): 94–118.
Feldman, M. S., & Pentland, B. T. 2005. Organizational routines and the macro-actor. In B. Czarniawska & T. Hernes, ***Actor-Network Theory and Organizing. Edited by*** B. Czarniawska & T. Hernes: Copenhagen Business School Press.
Feldman, M. S., & Pentland, B. T. 2008. Routine Dynamics. In D. Barry & H. Hansen (Eds.), ***The SAGE handbook of new approaches in management and organization***: 302–315. Los Angeles, Calif., London: Sage.
Feldman, M. S., & Rafaeli, A. 2002. Organizational routines as sources of connections and understandings. ***Journal of Management Studies***, 39(3): 309–331.
Fillmore, C. 1997. ***Lectures on Deixis***.
Foucault, M. 1972. ***The archeology of knowledge.*** trans. AM Sheridan Smith. London: Tavistock.
Gersick, C. J. G., & Hackman, J. R. 1990. Habitual routines in task-performing groups. ***Organizational Behavior and Human Decision Processes***, 47(1): 65–97.
Giddens, A. 1984. ***The constitution of society***: ***Outline of the theory of structuration***. Berkeley: University of California Press.
Goffman, E. 1981. ***Forms of Talk***. Philadelphia: University of Pennsylvania Press.
Grant, D., Hardy, C., Oswick, C., & Putnam, L. (Eds.) 2004. ***The Sage Handbook of Organizational Discourse***. London: Sage.
Habermas, J. 1990. ***Moral consciousness and communicative action***. Cambridge, Mass.: MIT Press.
Hales, M., & Tidd, J. 2009. The practice of routines and representations in design and development. ***Industrial and Corporate Change***, 18(4): 551–574.
Heidegger, M. 1962. ***Being and time.*** trans. J. Macquarrie and E. Robinson: New York: Harper & Row.
Hendry, J., & Seidl, D. 2003. The Structure and Significance of Strategic Episodes: Social Systems Theory and the Routine Practices of Strategic Change. ***Journal of Management Studies***, 40(1): 175–196.
Howard-Grenville, J. A. 2005. The Persistence of Flexible Organizational Routines: The Role of Agency and Organizational Context. ***Organization Science***, 16(6): 618–636.
Jian, G., Schmisseur, A. M., & Fairhurst, G. T. 2008. Organizational discourse and communication: the progeny of Proteus. ***Discourse & Communication***, 2(3): 299–320.
Knorr-Cetina, K. D. 2001. Objectual practice. In T. R. Schatzki, K. D. Knorr-Cetina & E. von Savigny (Eds.), ***The practice turn in contemporary theory***: 175–188. London: Routledge.
Labatut, J., Aggeri, F., & Girard, N. 2011. Discipline and Change: How Technologies and Organizational Routines Interact in New Practice Creation. ***Organization Studies***, 33(1): 39–69.

Lazaric, N., & Denis, B. 2005. Routinization and memorization of tasks in a workshop: the case of the introduction of ISO norms. ***Industrial and Corporate Change***, 14(5): 873–896.
Levinson, S. C. 2005. Deixis. In L. R. Horn & G. Ward (Eds.), ***The Handbook of Pragmatics***: 97–121. Oxford, UK: Blackwell Publishing Ltd.
Llewellyn, N., & Spence, L. 2009. Practice as a Members' Phenomenon. ***Organization Studies***, 30(12): 1419–1439.
Nelson, R. R., & Winter, S. G. 1982. ***An evolutionary theory of economic change***. Cambridge: Belknap Press of Harvard University Press.
Obstfeld, D. 2012. Creative Projects: A Less Routine Approach Toward Getting New Things Done. ***Organization Science***, 23(6): 1571–1592.
Orlikowski, W. J. 1992. The Duality of Technology: Rethinking the Concept of Technology in Organizations. ***Organization Science***, 3(3): 398–427.
Ortmann, G. 2010. On drifting rules and standards. ***Scandinavian Journal of Management***, 26(2): 204–214.
Parmigiani, A., & Howard-Grenville, J. 2011. Routines Revisited: Exploring the Capabilities and Practice Perspectives. ***Academy of Management Annals***, 5(1): 413–453.
Pentland, B. T., & Feldman, M. S. 2005. Organizational routines as a unit of analysis. ***Industrial and Corporate Change***, 14(5): 793–815.
Pentland, B. T., & Feldman, M. S. 2007. Narrative Networks: Patterns of Technology and Organization. ***Organization Science***, 18(5): 781–795.
Pentland, B. T., & Feldman, M. S. 2008a. Designing routines: On the folly of designing artifacts, while hoping for patterns of action. ***Information and Organization***, 18(4): 235–250.
Pentland, B. T., & Feldman, M. S. 2008b. Issues in empirical field studies of organizational routines. In M. C. Becker (Ed.), ***Handbook of Organizational Routines***: 281–300. Cheltenham: Edward Elgar.
Pentland, B. T., Feldman, M. S., Becker, M. C., & Liu, P. 2012. Dynamics of Organizational Routines: A Generative Model. ***Journal of Management Studies***, 49(8): 1484–1508.
Pentland, B. T., Haerem, T., & Hillison, D. 2011. The (N)Ever-Changing World: Stability and Change in Organizational Routines. ***Organization Science***, 22(6): 1369–1383.
Pentland, B. T., & Rueter, H. H. 1994. Organizational Routines as Grammars of Action. ***Administrative Science Quarterly***, 39(3): 484–510.
Peräkylä, A., & Ruusuvuori, J. 2011. Analyzing talk and text. In N. Denzin & Y. S. Lincoln (Eds.), ***Handbook of qualitative research***: 529–544 (4th ed.). Thousand Oaks CA: Sage.
Phillips, N., & Hardy, C. 2002. ***Discourse analysis***: ***Investigating processes of social construction***. Thousand Oaks CA: Sage Publications.
Psathas, G. 1999. Studying the organization in action: Membership categorization and interaction analysis. ***Human Studies***, 22(2-4): 139-162.
Rerup, C., & Feldman, M. S. 2011. Routines as a source of change in organizational schemata: the role of trial-and-error learning. ***Academy of Management Journal***, 54(3): 577–610.
Reynaud, B. 2005. The void at the heart of rules: routines in the context of rule-following. The case of the Paris Metro Workshop. ***Industrial and Corporate Change***, 14(5): 847–871.
Rorty, R. 1967. ***The Linguistic turn***. Chicago: University of Chicago Press.
Sacks, H., Schegloff, E. A., & Jefferson, G. 1974. A Simplest Systematics for the Organization of Turn-Taking for Conversation. ***Language***, 50(4): 696–735.
Salvato, C., & Rerup, C. 2011. Beyond Collective Entities: Multilevel Research on Organizational Routines and Capabilities. ***Journal of Management***, 37(2): 468–490.
Samra-Fredericks, D. 2003. Strategizing as Lived Experience and Strategists' Everyday Efforts to Shape Strategic Direction. ***Journal of Management Studies***, 40(1): 141–174.

Samra-Fredericks, D., & Bargiela-Chiappini, F. 2008. Introduction to the Symposium on The Foundations of Organizing: The Contribution from Garfinkel, Goffman and Sacks. ***Organization Studies***, 29(5): 653–675.
Sandberg, J., & Dall'Alba, G. 2009. Returning to Practice Anew: A Life-World Perspective. ***Organization Studies***, 30(12): 1349–1368.
Sandberg, J., & Tsoukas, H. 2011. Grasping the Logic of Practice: Theorizing through Practical Rationality. ***Academy of Management Review***, 36(2): 338–360.
Schatzki, T. R., Knorr-Cetina, K. D., & Savigny, E. von (Eds.) 2001. ***The practice turn in contemporary theory***. London: Routledge.
Searle, J. 1969. ***Speech acts***. Cambridge, UK: Cambridge University Press.
Searle, J. 1979. ***Expression and meaning***. Cambridge, UK: Cambridge University Press.
Silverman, D. 2001. ***Interpreting qualitative data***: ***Methods for analysing talk, text and interaction*** (2nd ed.). London [u.a.]: Sage.
Spradley, J. P. 1979. ***The ethnographic interview***. New York: Holt, Rinehart and Winston.
Taylor, J. R., & van Every, E. J. 2000. ***The emergent organization***: ***Communication as its site and surface***. New York London: Psychology Press.
Tsoukas, H. 2005. ***Complex knowledge***: ***Studies in organizational epistemology***. New York: Oxford University Press.
Tsoukas, H. 2010. Practice, strategy making and intentionality: a Heideggerian onto-epistemology for Strategy as Practice. In D. Golsorkhi, L. Rouleau, D. Seidl & E. Vaara (Eds.), ***Cambridge handbook of strategy as practice***: 47–62. Cambridge: Cambridge University Press.
Turner, S. F., & Fern, M. J. 2012. Examining the Stability and Variability of Routine Performances: The Effects of Experience and Context Change. ***Journal of Management Studies***, 49(8): 1407–1434.
Turner, S. F., & Rindova, V. 2012. A Balancing Act: How Organizations Pursue Consistency in Routine Functioning in the Face of Ongoing Change. ***Organization Science***, 23(1): 24–46.
Vaara, E. 2010. Taking the linguistic turn seriously: Strategy as a multifaceted and interdiscursive phenomenon. In J. A. Baum & J. Lampel (Eds.), ***The Globalization of Strategy Research (Advances in Strategic Management, Volume 27)***: 29–50: Emerald Group Publishing Limited.
van Dijk, T. A. 1997. ***Discourse as structure and process***. London: Sage.
Watson, T. J. 1995. Rhetoric, Discourse and Argument in Organizational Sense Making: A Reflexive Tale. ***Organization Studies***, 16(5): 805–821.
Weick, K. E. 2003. Theory and practice in the real world. In H. Tsoukas (Ed.), ***The Oxford handbook of organization theory***: 453–475. Oxford: Oxford University Press.
Wittgenstein, L. 1953. ***Philosophical Investigations***. New York: MacMillan.
Yanow, D., & Tsoukas, H. 2009. What is Reflection-In-Action? A Phenomenological Account. ***Journal of Management Studies***, 46(8): 1339–1364.
Zbaracki, M. J., & Bergen, M. 2010. When Truces Collapse: A Longitudinal Study of Price-Adjustment Routines. ***Organization Science***, 21(5): 955–972.

Appendix: Supporting Evidence for First-Order Analysis

The enacting mode of talk	Analysis
A: Filling in shipping documents for biological products (see Figure 1, step 5) *John, the quality manager, and Stephen, the product manager, are sitting at John's desk. John is on the computer filling in a form; Stephen is sitting next to him, looking at the screen.* 1 **John**: "OK, so let's start [moves the cursor to Outlook]. You've already sent me the email with the address; that should make it easier ... Damn … [searches for the email in his 3 Inbox]. That's it. What do we send? [Opens the template for shipping documents]. We send ..." 5 **Stephen**: [looks at the screen] "'Six ... six growing cryo-blocks containing ...'" [John types; Stephen points at the screen] "Careful, typing error ... 'containing [type X] cell 7 tissues'." **John**: [typing] "'Containing [type X] cell tissues' ... My God [deletes the last word, types 9 again] ... 'tissues ... from—origin? Source'?" **Stephen**: [still looking at the screen] "'Of animal origin' ... 'origin' is OK." 11 **John**: [typing] "…'on dry-ice'. In parentheses, 'at a temperature'—in case they don't know that—'of minus eighty degrees Celsius'." John and Stephen continue to fill in the shipping documents.	***Characteristics of enacting talk*** – *Building intersubjectivity*: Stephen answers John's question (line 3) by dictating to John what he should type (line 4), thereby displaying their joint focus on the task. Their interaction involves both utterances and nonverbal action. Language is used as a tool for guiding John to fill in the document and to correct mistakes (line 5). – *Speaking knowledge*: the articulated knowledge focuses on the shipment (e.g., "six growing cryo-blocks" in line 4). – *Referencing*: actors use personal (e.g., "you," "me") and spatial ("that") deictics to refer to the situation. ***How actors use talk*** – To initiate a step in the enactment of the routine (e.g., by dictating the content of the document and correcting mistakes). ⟹ ***Impact on Routine Change:*** No change
B: Preparing the nitrogen tank for shipping (see Figure 1, step F) *Susan and John finish preparing a shipment of plates. They are standing next to each other at the packing station; Susan is putting away the tape she has used to seal the box.* 1 **John**: "Well ... this thing here also needs to be shipped back" [looks at the nitrogen tank next to the packing station]. 3 **Susan**: "The R2-D2" [smiling, she glances at the nitrogen tank]. **John**: "It originally came from [customer X], didn't it? [Turns towards Taylor, who is just 5 passing by the packing station]. The nitrogen tank there, didn't it?" **Taylor**: "Well, no ... [looks at the nitrogen tank], it came directly from [customer Y]." 7 **John**: "I guess it should go back to ... Let me check with Stephen, because it doesn't say ... but I think it should go to [customer X] ... [walks into the room next door]. 9 **John:** [looking at Stephen] "Stephen, the tank should go back to [customer X], shouldn't it?" 11 **Stephen:** [looks at John] "Yes, to customer X." *John returns to the packing station and starts to prepare the nitrogen tank for shipment.*	***Characteristics of enacting talk*** – *Building intersubjectivity*: brief verbal turns, punctuated by nonverbal action (e.g., walking into another room); both Taylor (line 6) and Stephen (line 10) directly answer John's question, thereby displaying their understanding that John needs the information to complete the task (i.e., to ship the tank). – *Speaking knowledge*: the articulated knowledge focuses on the task (e.g., "the tank should go back to [customer X]"). – *Referencing*: actors use personal pronouns ("I," "it"), spatial markers ("this") and expressions that refer deictically to the task at hand ("the nitrogen tank"). ***How actors use talk*** – To exchange information about the task, i.e., where the tank should be shipped to. ⟹ ***Impact on Routine Change:*** No change

The situated reflective mode of talk	Analysis
C: Negotiating a plate shipment (see Figure 1, steps C, D, E) *Susan is preparing a box of plates at the packing station. She walks up to John's desk.* **Susan**: "Do you know how many of these lids need to be shipped?" **John**: [looks up at Susan] "I don't have a process router yet, and as long as I don't have the process router, I am not sending anything." [...] **Susan:** [looking irritated] "But the lids ..." **John**: "Yes, we need to discuss how we do this. Do we open all bags and repackage them? Because today there is nobody who can do this. Or do we simply take 40 lids in their own packaging and put them together with the plates? It's fine with me either way, but if [...] the box needs to be ready for pick-up by 2 p.m., then we're running out of time." **Susan**: "I also need to go back to the lab in a minute; I need to prepare some cells." **John:** [nods] "Maybe Jacob will come in later; maybe he can do it." *About an hour later, Chris walks up to John's desk with the order process router and invoice.* **Chris**: "Here" [hands John the documents]. "And I also brought along the invoice." **John**: "OK, good!" [Takes the documents and looks at Chris]. So how do we do it now? Do we take 40 lids in their packaging or do we repackage them with the plates? Because Jacob and Jane are not here today; Jacob may come in later, but I'm not sure." **Chris**: "No, I've been thinking anyway ... I'd rather not send the new plates; not after Susan's bad test results. That would give a bad impression to the customer [...]. Let's just ship the old plates, the ones from the last batch. There should be some left over. And then you just add 40 lids." **John**: "Yes, that's a good idea [...]." **Chris**: "Can you take care of the shipment so that it is picked up today? I don't want [customer X] to have to wait any longer." **John**: "I'll do that." *John turns towards his computer and opens the browser.*	***Characteristics of situated reflective talk*** – *Building intersubjectivity*: intersubjectivity about the task is built verbally in each turn; by pointing out the lack of the router (line 2), John switches to situated reflective talk; Susan's reply (line 4) indicates that she is irritated by John's utterance and would have preferred to stay focused on the task (enacting talk); John's next utterance (lines 5 to 8) explains the necessity to talk about the situation; Susan displays her understanding by pointing out another aspect of the situation (line 9). – *Speaking knowledge*: Susan, John and Chris articulate and progressively expand their knowledge about the situation, e.g., by pointing out "today there is nobody who can do this" (line 6) or "the bad test results" (line 16). – *Referencing*: the actors use personal ("you," "he," "I"), temporal ("today," "later") and spatial deictics ("these," "this") to refer to the local situation; "we," in lines 5–7 and 12–13, refers to the actors' institutional role in the routine. ***How actors use talk*** – To point out the differences between this and "regular" performances (e.g., it is unclear whether the lids should be repackaged or not, nobody is available to do it and the new plates have yielded bad test results) – To negotiate an alternative course of action (e.g., they could send the old plates and not repackage the lids and John could finalize the shipment). ⟹ ***Impact on Routine Change:*** Solving a problem & adapting the performance to the particular situation
D: Shipping 30 individual free samples of plates to the US (see Figure 1, steps B to I) *John, who will be going on holiday the following week, and Susan are taking a coffee break when Chris walks past them, also looking for coffee.*	***Characteristics of situated reflective talk*** – *Building intersubjectivity*: the actors build intersubjectivity

John: "Chris, tell me, how many free samples go to the US?" **Chris:** [turning toward John] "I would say ... about 30 individual shipments. So, one possibility would be ..." **John:** [interrupting Chris] "Then it'd be better if I put them into my suitcase and took them with me next week." **Chris**: [looking surprised] "That's right, you're going there." **Susan**: "However, we would not have all of the boxes ready, would we?" **Chris**: "How long are you staying?" **John**: "Two and a half weeks." **Chris**: "Well, then we could consider preparing the shipments here, sending them to you via ShipCo—and then you could take them to the US post office." [...] **Susan**: "But are you even staying that long in one hotel?" **John**: "Yes, we'll be staying in Orlando for the entire last week." **Chris**: "Then we'll pay the admission fee for Disneyworld for you and your partner." [...] **John**: "We have 30 plates available, don't we?" **Susan**: "Yes, but we also need a box or a bag." **John**: "No, not a bag. I'll just put them into my suitcase. Oh, you mean 30 small boxes?" **Susan**: [nods] "Yes." **Chris**: [thoughtfully] "You need something; that's true." **John**: "Then we'll take 30 of those small ones, they have them in stock." [...] **Chris**: "So, that would be good, we would be happy to do it this way, if it is OK with you?" **John**: "Yes." **Chris**: "It will take up some extra space in your suitcase. But you could consider taking an additional suitcase; that would cost extra, but we would pay for it." **John**: "I need to call the airline anyway [...]." *The conversation shifts to another topic.*	about the shipment verbally in each turn; by replying to John "So, one possibility would be ..." (line 2), Chris displays his understanding of John's question as an invitation to reflect on the shipments; John and Susan display the same understanding by pointing out certain aspects of the situation (lines 4 and 7). – *Speaking knowledge*: Susan, John and Chris jointly articulate and progressively expand their knowledge about the situation; e.g., by pointing out that John is going to the US (line 4) and that Chris is willing to compensate for John's efforts by paying for Disneyworld (line 14). – *Referencing*: the actors use personal ("you," "I"), temporal ("next week") and spatial deictics ("there") to refer to the local situation; "we" (e.g., lines 7, 10, 15) refers to the actors' institutional role in executing the shipment. ***How actors use talk*** – To point out aspects of the performance that are different from regular performances (e.g., that John is going to the US). – To jointly develop a different course of action; i.e., John could send locally the free samples that would normally get shipped. – To implicitly articulate their intentions (e.g., John wants to reduce shipping costs). **⟹ *Impact on Routine Change:*** Taking advantage of opportunities & adapting the performance to the particular situation

The distanced reflective mode of talk	Analysis
E: The Breathable Membrane (see Figure 1, step 1) *To prepare cell tissues for shipments, lab employees transfer the tissues to a special plate, insert a shipping medium that becomes viscous at room temperature, cover the plate with a breathable membrane and then seal the plate in a bag. In this particular lab meeting at CellCo, while the head of R&D, Taylor, is discussing a new procedure for preparing the shipping medium, lab employee Laura questions the use of the membrane in the distanced reflective mode.* 1 **Taylor:** [pointing at a diagram of the new procedure projected on the wall] "So the membrane goes together with the shipping medium. So, the plate should then be 3 covered with the breathable membrane and then everything should be sealed in a bag." 5 **Laura**: "But do we really have to cover the plate with the breathable membrane? Given the price, they are really expensive." 7 **Taylor**: [hesitates] "Yes. It looks more professional." **John** [confirms] "To be on the safe side, we should definitely do it." 9 **Taylor**: [concludes] "And that's where the process ends. This [procedure] only concerns adding the medium and then packaging the plate" [turns to another topic]. *Because Laura's suggestion has been rejected, actors continue to use the membrane in subsequent performances. A few weeks later Laura is in the lab, preparing six plates of tissue for shipping. Because her right arm is injured and the other lab employees are busy, Michael, her manager, prepares the plates under her guidance. After Michael has transferred the tissues to the shipping medium, Laura shows him how to put the membrane on the plate.* 11 **Laura:** [takes the membrane and a roller from a drawer and walks over to Michael, who is sitting at the lab bench] "So, this is the membrane. Actually, it is just a 13 precaution, just in case something happens to the tissue. So [she peels the foil off the membrane and places the membrane on the right side of the plate] … and then you 15 take this [she takes the roller and rolls it over the membrane so that the membrane becomes attached to the plate]. As long as the air bubbles are only on the well, that's 17 OK [continues to roll out the membrane leaving no air bubbles beneath it; Michael continues to watch her] … it's quite expensive for a precautionary measure, though." 19 **Michael**: [takes the plate into his hand and looks at the membrane] "Doesn't it also pose an additional risk of contamination?" 21 **Laura**: "Hmm [avoids eye contact]. True. But the plate will also be sealed in a bag."	***Characteristics of distanced reflective talk (1st scene)*** – *Building intersubjectivity*: actors build intersubjectivity about a part of the routine (i.e., preparing cell tissues) verbally through organized turn-taking (as is typical of meetings); the participants display a joint understanding about the routine in general by pointing out some of its general characteristics. – *Speaking knowledge*: Taylor typifies how cell tissues should be prepared (lines 1 to 4); Laura, Taylor and John articulate specific properties of the typified category "membrane," while John and Taylor contest the implications of Susan's typification. – *Referencing*: Taylor transposes the deictic origo to an imagined context; "then" (lines 2–3) is used as transposed temporal deictic; there are no verbal references to the local context; speakers use typified categories (e.g., "the membrane"). The personal pronoun "we" (lines 5–8) refers to the collective institutional setting, i.e., CellCo. ***How actors use talk*** – To point out certain general properties of the membrane – To associate the membrane with facts that are not immediately relevant to the specific performance (e.g., "expensive") – To suggest and prevent changes to the routine (in line 5 Laura suggests change and in lines 7–8 her suggestion is turned down) – To articulate their intentions with regard to the routine's pattern (e.g. looking professional and ensuring safety). ⟹ ***Impact on Routine Change:*** Preventing changes to the routine's pattern ***Characteristics of talk (2nd scene, in the lab)*** – *Building intersubjectivity*: Laura starts to explain to Michael in situated reflective talk how to put on the membrane; by pointing out "it's quite expensive" (line 18), she switches to distanced reflective talk; Michael's question in lines 19–20 displays his understanding that they're talking about the membrane in general. In line 31 Michael switches to situated reflective talk. – *Speaking knowledge*: Susan and Michael typify the use of the

Michael: "But if the plate is then sealed anyway, this doesn't make any sense 23 [looking at Laura quizzically] … why do we do this anyway?" **Laura**: "Well, we only do it because Nick [another lab employee] also did it when he 25 once transported plates with the normal medium." **Michael**: "But this doesn't make any sense. We don't need a breathable membrane if 27 we wrap the plates airtight later anyway." **Laura**: "That's what I kept on saying all along." 29 **Michael:** [takes another plate and starts putting on the membrane] "OK … [tries his best to put on the membrane correctly, but still creates bubbles] it's not that easy. […] 31 **Michael**: Then let's do it this way: we send [customer Z] two plates with the membrane and two plates without it and then they can give us feedback on whether 33 this makes a difference. After all it's just research collaboration, so we can do that" [Laura nods; Michael finishes preparing the plates].	membrane (e.g., in line 20 they mention the "additional risk of contamination"); the knowledge about the typified category is progressively expanded. – *Referencing*: Laura refers to the past ("Nick also did it"; line 24), while the personal pronoun "we" in lines 23, 24 and 26 refers to the collective institutional setting, i.e., CellCo. The actors use typified categories (e.g., "the membrane," "the bag"). ***How actors use talk*** – To point out some of the general aspects of the use of the membrane (e.g., it's "expensive," it "doesn't make sense") – To informs others who are not participating in the routine (e.g., Laura explains to Michael why the membrane is used). ⟹ ***Impact on Routine Change:*** Challenging the routine's pattern
F: Exemption from X-ray screening at the airport (see Figure 1, steps 5 and 6) *Michael (head of product management) and Stephen (product manager) have learned at a conference that X-rays have a significant negative impact on cell tissues. Because both actors know that shipping cell tissues across the world entails X-ray screening at airports, they have asked John, the quality manager, to find a way to circumvent X-rays. During the next meeting of all lab employees at CellCo's coffee corner, Stephen asks John:* 1 **Stephen**: "What about the X-rays at the airport?" **John**: "We are about to get an exemption from ShipCo. That is, with ShipCo it is 3 possible to designate a specialist. The specialist—in this case, me—has to verify that when the package is put together, everything is in order. Next, the shipment gets a 5 security label and the package has to be sealed. Afterwards, no one is allowed to open the package and I'm to guarantee that there are no explosives inside. This means that, 7 if the plane blows up because there were explosives in the package, then you can visit me in prison, if at all." [...] 9 **Michael**: "The reason why we became more careful is that we talked to two scientists in Montreal who will soon publish a paper in which they show the effects of X-rays 11 on the functionality of cell tissues. They claim X-rays would cause a problem with their cell tissues [...]. After exposure to X-rays, they would no longer be usable." 13 **John**: "We will try to minimize this by circumventing X-rays with ShipCo. There is never a 100% guarantee. If the security officer at the airport says: "This is going 15 through the X-rays," then it will go through the X-rays. [...] Ninety percent will avoid the X-rays, but 10% will still go through."	***Characteristics of distanced reflective talk*** – *Building intersubjectivity*: actors build intersubjectivity verbally, turn by turn. By replying with a general description of how X-rays can be avoided (lines 2–6), John displays his understanding of Stephen's question; John's joke in lines 7–8 reflects the distance from a specific performance. – *Speaking knowledge*: John typifies how X-ray screening can be avoided (lines 2–6, 13–16); actors' knowledge about the typified categories (e.g., "X-rays,") is progressively expanded. – *Referencing*: by typifying how X-rays can be avoided, John transposes the deictic origo. Michael refers to the past ("we talked to two scientists in Montreal"); numerous typified categories (e.g., "package," "security label," "explosives" etc.) are used and the personal pronoun "we" (lines 2, 9, 13) refers to the collective institutional setting. ***How actors use talk*** – To inform actors not participating in the routine – To retrospectively acknowledge change – To articulate their intentions with regard to the routine (e.g., in lines 9–12, to ensure the viability of shipped cell tissues). ⟹ ***Impact on Routine Change:*** Introducing changes to the routine's pattern

3 Resourcing Routine Change: How Resources Contribute to Routine Dynamics

Katharina Dittrich, David Seidl

Abstract

Despite their central role in organization theory in general and the capabilities perspective on routines in particular, resources have received hardly any attention from researchers interested in the internal dynamics of organizational routines. Drawing on resourcing theory, this paper argues that the structural aspect of routines (the ostensive aspect) not only consists of schemas, as depicted in the extant literature, but also of resources. Analyzing data on two routines from an ethnographic study at a start-up company, we investigate how the interplay between schemas, resources and actions influences routine change. We find that variations in performances are triggered by alternative schemas or by changes in resources. Resourcing—creating new or drawing on existing resources to enact schemas—allows actors to generate these variations and to enact some of them repetitively, so that, over time, they become part of the ostensive aspect. We identify different patterns of resourcing within and across routines that we theorize as two distinct evolutionary mechanisms of variation and selective retention. Our model of resourcing in routine change extends the existing evolutionary model of routine change by uncovering *why* and *how* actors generate variations, and *how* they selectively retain some of them in the ostensive aspect of routines. In addition, our findings contribute to the understanding of the ostensive aspect, of actors' temporal orientations in routines and of the embeddedness of routines.

Keywords

Organizational routines; resources; schemas; resourcing theory; routine change

3.1 Introduction

Resources are central to organizations. They have been studied extensively from different perspectives, and continue to be an important topic of research in organization theory. Early studies of resources (Pfeffer & Salancik, 1978; Thompson, 1967) focused on resources in the external environment, whereas more recent approaches (Barney, 1991; Teece, Pisano, & Shuen, 1997) emphasize how the use of resources within organizations contributes to building competitive advantage and thus to firm survival. Similarly, the capabilities perspective on organizational routines recognizes the importance of resources for performing capabilities (Parmigiani & Howard-Grenville, 2011). In light of this, it is surprising that the practice-based perspective on routines has paid scarcely any attention to resources. While practice-based studies on routines provide important insights on how human agency influences the enactment of routines, it remains unclear how *resources* influence the internal dynamics of routines, in particular routine change.

Since Feldman and Pentland's (2003) introduction of the practice-based approach to routines, the internal mechanisms underlying routine stability and change have been studied extensively (Parmigiani & Howard-Grenville, 2011). Feldman and Pentland (2003) opened up routines by conceptualizing them as a duality of agency and structure: the structural element is the ostensive aspect, defined as "the abstract, generalized idea of the routine," while the agential part is the performative aspect, defined as the "specific actions [taken] by specific people, in specific times and places" (Feldman & Pentland, 2003: 101). They argue that the dynamics between these two aspects "creates an on-going opportunity for variation, selection, and retention" (Feldman & Pentland, 2003: 94). Since then, most studies have focused on how different aspects of agency —such as actors' temporal orientations (Howard-Grenville, 2005), negotiations (Zbaracki & Bergen, 2010) and actors' experience (Turner & Fern, 2012)—drive this evolutionary model of endogenous routine change. While this focus on human agency has undoubtedly been very productive, it has neglected the means by which actors take action, i.e., the resources used to enact routines.

Taking action presupposes resources, and patterns of action cannot be described without also referring to the means, i.e., the resources, used in taking those actions. Actors use a wide range of resources to enact routines, ranging from material artifacts like software (D'Adderio, 2003) and technical drawings (Cacciatori, 2012), to immaterial resources like relations with other actors (Turner & Rindova, 2012) and specific practices such as meetings (Zbaracki & Bergen, 2010). Resources have always been implicit in studies of organizational routines, but their role in shaping routine change has not yet been explicated.

This paper sets out to address this gap, and to answer the following research question: *How do resources contribute to changes in organizational routines?* Drawing on a one-year ethnographic study of a start-up company in the pharmaceutical sector (see also chapter 2 in this thesis for a different analysis), we examine the influence of resources on two routines—assembling and shipping—that were both considered central to the firm's operations. We analyzed numerous performances of these routines, which allowed us to identify different patterns of how resources influence routine development. In addition, focusing on two routines—and taking into account related routines as they influenced or were influenced by the two focal routines—allowed us to analyze how change 'spilled over' from one routine to another. In our analysis, we applied a broad definition of "routine change" to capture both exogenous and endogenous as well as deliberative and emergent change (see also Turner & Rindova, 2012).

During our analysis, we realized that our understanding of the role of resources in routines was limited by the literature's "lack of clarity regarding the construct of the ostensive aspect" (Dionysiou & Tsoukas, 2013: 184; Pentland, Feldman, Becker, & Liu, 2012). Drawing on resourcing theory (Feldman, 2004), which assumes that structures are "sets of mutually sustaining schemas and resources" (Giddens, 1984; Sewell, 1992: 19), we argue that the structural aspect is not fully elaborated in the routines literature: the ostensive aspect not only consists of actors' shared schemas (Dionysiou & Tsoukas, 2013), but equally of resources used to enact these schemas. According to resourcing theory, resources are neither given nor defined by any a priori characteristics (Feldman & Worline, 2011), but rather by their use in practice: they are those assets that enable actors to enact schemas (Feldman, 2004). In this paper, we argue that the ostensive aspect is the result of the combination of specific schemas—that we refer to as 'established schemas'—and specific resources—that we refer to as 'resources-in-use'—which repetitively produce the same patterns of action.

Investigating the role of schemas and resources in routine change, we find that variations in routine performances are triggered by alternative schemas or changes in resources that challenge the 'established schemas' and/or the 'resources-in-use'. To enact these variations and reproduce them in future performances, actors engage in resourcing, i.e., creating new resources, changing resources-in-use or drawing on potential resources to enact schemas. Our analysis shows that unintended routine changes can be the result of (1) changes in resources, that give rise to schemas that were not previously conceivable and (2) failing to resource alternative schemas appropriately, so that modified schemas arise and are enacted. Moreover, we find that the interplay between schemas and resources may extend across

several routines, so that changes in one routine spill over into other routines, sometimes in unpredictable ways.

We contribute to the literature in four important ways: first, we further develop the conceptualization of the ostensive aspect by demonstrating that resources-in-use are a constitutive element of it and contribute to actors recognizing the patterns of action that are characteristic of the routine. Second, our study extends the evolutionary model of routine change as depicted in the literature by theorizing *why* and *how* actors generate variations and *how* they selectively retain some of them for future performances. Third, our findings explain how actors' temporal orientations arise and how they in turn shape the availability of schemas and recognition of assets and other 'things' as potential resources. Fourth, our results on resourcing across routines suggest that routine embeddedness is not a given characteristic of routines, but rather a dynamic process that unfolds over time—sometimes in unpredictable ways.

The remainder of the paper is organized as follows: the first section briefly reviews the theory of routine dynamics and the implicit role of resources in empirical studies on routines. It suggests resourcing theory as a useful way to systematically capture and theorize resources in routine dynamics. The second section explains our methodology for collecting and analyzing our data. The third section presents our empirical results in three parts: (1) resourcing within routines (2) failures in resourcing and (3) resourcing across routines. It continues to develop our theoretical model that summarizes our findings. The fourth section discusses our results in the context of the extant literature and reflects on the limitations of our research and opportunities for further research.

3.2 Theoretical Background

3.2.1 Organizational Routines and Resources

Organizational routines are defined as "repetitive, recognizable patterns of interdependent actions that involve multiple actors" (Feldman & Pentland, 2003: 96). While research has traditionally emphasized the stability-enhancing characteristics of routines (Cyert & March, 1963; March & Simon, 1958), recent work has focused on their changing nature and introduced a practice-based perspective to the study of routines (Parmigiani & Howard-Grenville, 2011). Paving the way towards a theory of routine dynamics, Feldman and Pentland (2003) have established "a new ontology […] in which routines incorporate a duality of agency and structure" (Dionysiou & Tsoukas, 2013: 182). The structural part is the

ostensive aspect—the routine in principle—while the agential part is the performative aspect—the routine in practice (Dionysiou & Tsoukas, 2013; Feldman & Pentland, 2003). The ostensive aspect describes the abstract pattern of action that is recognizable in the performative aspect, that is, in the variety of different performances of the routine (Pentland & Feldman, 2005).

The ostensive and the performative aspect are mutually constitutive: the ostensive aspect guides, refers to and accounts for specific routine performances, while the performative aspect, in turn, creates, maintains and modifies the ostensive aspect. Feldman & Pentland (2003) propose that the recursive relationship between the two aspects can be understood as an evolutionary mechanism of variation and selective retention (Campbell, 1965): routine participants introduce, intentionally or unintentionally, variations in performing the routine (the performative aspect) and then selectively retain some of these variations in their understanding of the routine (the ostensive aspect). Thus, the possibility for endogenous—i.e., internal—routine change lies in the interaction between the ostensive and performative.

While there is widespread consensus about what the performative aspect involves, there is less agreement about the ostensive aspect (Dionysiou & Tsoukas, 2013; Pentland et al., 2012). Recent work (Pentland & Feldman, 2008; Rerup & Feldman, 2011) has emphasized the multiplicity of the ostensive aspect: actors differ in their understandings of a routine because they play different roles in it and so develop different points of view. In contrast, Dionysiou and Tsoukas (2013) emphasize the structural properties of the ostensive aspect that are independent of actors' subjective viewpoints: through their interactions in routines, actors' schemas, defined as "generalized cognitive structures for representing elements and the relationships between them" (Dionysiou & Tsoukas, 2013: 191), eventually become shared.

Drawing on the practice ontology that underlies the theory of routine dynamics (Feldman & Orlikowski, 2011), we argue that to grasp the ostensive aspect more fully it is necessary to take into account the role of resources. Most practice theories (e.g. Bourdieu, 1990; Giddens, 1984) treat resources as a constitutive aspect of practice: "carrying out a practice very often means using particular things in a certain way" (Reckwitz, 2002: 252). Hence, resources are the means by which actors enact routines, and patterns of action can hardly be described without referring to these means. As Dionysious and Tsoukas point out, the ostensive aspect describes actors' shared understandings about "roles, *means*, and outcomes" (Dionysiou & Tsoukas, 2013: 188; emphasis added). For example, the abstract pattern of action involved in buying an airplane ticket (Pentland & Feldman, 2007) includes

turning on the computer, selecting an itinerary, searching for available flights and prices and paying with the credit card. Included in this description of the pattern are the resources required to enact the routine, i.e., a computer, prices, itineraries and a credit card.

Similarly, resources are also part of the performative aspect; they are used in specific times and places to enact routines. Here, empirical studies in the practice-based tradition reveal three facets (see also Table 7). First, a wide range of different kinds of resources are involved in enacting routines, including material and immaterial resources, qualities of relationships and other practices used to enact the routine. The role of material objects, i.e., artifacts, in routines has been an explicit topic of research in recent studies (e.g., Bapuji, Hora, & Saeed, 2012; Cacciatori, 2012; D'Adderio, 2003; Hales & Tidd, 2009), albeit not from a resource perspective: for example, actors use specific software to enact product development routines (D'Adderio, 2003; Hales & Tidd, 2009) and different product representations, sketches, and technical drawings to enact the bidding routine (Cacciatori, 2012). In contrast, non-material resources have received much less attention, but have nevertheless been described as elements that are used in performing routines. For example, relationships and their qualities can be resources: actors in waste collection routines use their connections to share information and agree about how to maintain their services (Turner & Rindova, 2012), while trust is an important resource in both roadmapping (Howard-Grenville, 2005) and traditional breeding routines (Labatut, Aggeri, & Girard, 2011). Other immaterial resources include criteria to make decisions in the roadmapping routine (Howard-Grenville, 2005), emotions to enforce compliance with formal procedures in the prototype parts purchasing routine (Obstfeld, 2012: 1580) and different kinds of meetings to enact the product development routine (Hales & Tidd, 2009).

Second, resources are also created and changed to enact routines. For example, in the bidding routine actors developed a new Excel workbook to estimate costs (Cacciatori, 2012) and for the new quality management routine, managers created, amongst other resources, a new quality department and an internal laboratory, a new training program and an incentive-based pay system (Lazaric & Denis, 2005). In the bidding routine, the Excel workbook was changed to better fit the requirements of the bidding process (Cacciatori, 2012) and in the roadmapping routine, the roadmap was extended to reflect the long-term nature of water-related issues (Howard-Grenville, 2005). Resources may also be removed from or replaced in the enactment of routines: thus, when managers established an internal laboratory to enact the quality management routine, “the earlier use of an external laboratory gradually ended” (Lazaric & Denis, 2005: 880), and in the animal breeding routine the morphological and

Table 7: Literature Review of Resources in Practice-Based Studies on Organizational Routines

Author (Year)	Research question	Exemplary resources that were used to enact routines*	Exemplary resources that were created or changed to enact routines*	Exemplary resources that created problems or were used differently than expected*
Feldman (2000)	Why do routines change even though they should be stable? How do they change?	At the housing division of a large university, the damage-assessment routine involved filling in an *inventory list* at the beginning of the year and using it at the end of the year to assess room damage. In the move-in routine, the central administrator used his *connections* with the "city police department to change the traffic flow" to avoid traffic jams in front of residence halls (p. 617).	"A further refinement on the move-in routine was to establish a *place for vendors* to show their wares that was accessible but did not impede traffic." (p. 617).	The move-in routine typically used "*the Saturday before Labor Day* for moving students into their university housing because on this day "the city [was] typically empty and it [was] relatively easy to change traffic patterns". However, this temporal resource created several problems for Housing when "the athletic department scheduled the first home game for the Saturday before Labor Day" (p. 617).
Feldman (2003)	Why did the budgeting routine not change as envisioned?	The budgeting routine at the housing division of a large university (see also Feldman, 2000) required that building-level managers create *lists* of the projects they would like to have funded. Their supervisors then used several *meetings* to discuss which projects would be funded (p. 733).	The supervisors created *forms*, so-called *consensus lists*, for the building-level managers to fill-in in order to create a consensus on what projects are most crucial for each of the residence halls (p. 733).	However, the *forms* were used differently than envisioned by the supervisors: building-level managers tended to submit two lists, an individual list from each building-level manager and a composite list for each of the residence halls (p. 736).
D'Adderio (2003)	How are knowledge and routines encoded in software? How does this influence knowledge sharing & communication?	Both the production and engineering department of a leading automotive organization use a document, "*the Engineering Parts List (EPL)* , which is a structured list of all the parts that belong to the same" vehicle (p. 331). The EPL documents are manually compiled by using several basic tools, e.g., *Excel spreadsheets*, *paper drawings* and *CAD sketches* (p. 332).	Managers implement a *product data manager (PDM) software* to seamlessly integrate data flows across production and engineering and to "support the management of product/ process changes" (p. 325).	The *PDM software* was used differently than originally expected: instead of seamlessly integrating data flows, it was used as an 'interfacing' device, i.e., actors set up a conversion between the different data flows (p. 336).
Howard-Grenville (2005)	How do agency and context influence the persistence and change of routines?	At a large manufacturer of computer chips, the roadmapping routine involved assessing future needs by process step and establishing *roadmaps* . To take a decision about a roadmap, the Strategic Planning Council (SPC) uses a large amount of *data* and *specific criteria* . People have to *trust* the SPC to execute the roadmap (p. 622).	To develop a roadmap for water-related issues, routine participants extended the *roadmap* farther into the future than most roadmaps and oriented it towards the construction of new fabrication facilities, not new manufacturing processes (p. 624).	n/a
Lazaric and Denis (2005)	What are the cognitive and motivational dimensions of routine change during ISO implementation?	n/a	To introduce new quality management routines according to ISO standards at a meat-processing firm, management created several resources, including a *new quality department* and *an internal laboratory*, *a new training program*, *task rotation*, a *multi-skill rule* and an *incentive-based pay system* (p. 880 ff.). The quality department in turn created *connections* between other departments and "fostered a spirit of *'team work'*, which has proven crucial in the collective selection of good practices" (p. 882). As a result of the change, the company did not use the *external laboratory* anymore (p. 880).	The *information* generated by the new quality management routines became problematic because "staff could not cope with the amount of information generated" (p. 886).
Reynaud	How does the	To enact the repair routine at the Paris Metro	To introduce a new productivity bonus for repair	The *productivity bonus* was used differently than

(2005)	introduction of a new rule by management influence the enactment of routines?	Workshop, workers place the equipment awaiting repair or maintenance on *dedicated shelves* and indicated the type of work required by the *color of the tags* (p. 863). Workers also used a *'debt sheet'*, i.e., a listing of various parts required, to keep track of delays (p. 861).	work, management used the *average working time*, *output volumes* weighted by a certain *coefficient*, the *'debt sheet'* and *failure rates* of repaired equipment to assess the productivity of each team.	expected by management: workers maximized the output to achieve the maximum bonus at the detriment of quality standards (p. 863).
Hales and Tidd (2009)	What is the role of formal representations of routines compared to non-formal representations?	Participants in the product development routine at a high-tech manufacturer used a *Lotus-notes application, the 'wizard'*, to formally start developing a product by filling in *checklists* and to sign it off at the end . They also used a *formal kick-off meeting, fortnightly review meetings* and *informal cross-function team meetings* to develop the product and generate commitment (p. 561ff., p. 566)	n/a	The *software* was used differently than expected: instead of "producing conceptual designs and commitments to beta prototypes", the *wizard* was only used to formally start the process and to sign-off the final product at the end (p. 561 ff.). The product development handbook was also absent from participants' work, who instead used "*stories*", e.g., "about what this product will contribute to the business" (p. 564) to enact the routine.
Zbaracki and Bergen (2010)	How are truces in routines maintained and renegotiated?	In the pricing routine at a manufacturing firm, "a *task force* run by the marketing group looked at both competitors and customers before revising the *price lists* . *List prices* then served as the basis for *negotiations with the customers*", arriving at a *final negotiated price* (p. 960). In meetings to set list prices, actors used "*detailed information* about price and market position" (p. 961).	n/a	When the company wanted to do a major price change, differences in how *list prices* were used created problems: the marketing department used list prices to signal to competitors, distributors and customers changes in the pricing policy, while the sales force used list prices as "a starting point" for negotiations with distributors (p. 964).
Rerup and Feldman (2011)	How are organi-zational schemata and routines related? What is the role of trial-and-error learning?	To enact the welcoming part of the recruiting routine at a newly founded research institution (LLD), participants in the recruiting routine sent *flowers* to the new employee, prepared a *computer*, got *keys* and the *final contract* ready and gave the employee a *tour* (p. 595).	To enact the recruiting routine at LLD, actors also created several resources, such as *employment ads* in specific venues, *ad hoc interviews* and *high salaries* (p. 589). After several performances, actors further improved the routine by creating an *employee handbook*, changing the *ads* and hiring a *contract coordinator* (p. 594).	The *high salaries* used in the recruiting routine became problematic when the government agency, in which LLD was embedded, refused to approve them (p. 589). "LLD's members began to use a [different] *form of contract*" (p. 589), but after a while these contracts were not approved either.
Labatut et al. (2011)	What is the interplay between the disciplinary effects of technologies and performances in routine change?	In the traditional animal breeding routines, farmers used *marketplaces* and *country fairs* to sell and buy animals. They used *morphological* and *aesthetic criteria* to evaluate animals and set prices. *Interpersonal relations* between farmers, in particular the *reputation* and *trust* involved in these relations, supported traditional breeding routines (p. 52).	The new genetic breeding technology required the creation of new resources: "*On-farm milk recording* measures the milk performance of animals, and these *data* are then used to calculate *breeding values*. The breeding values serve to estimate the *genetic worth* of each animal, which is then used to choose the best animals for planned mating through *artificial insemination*" (p. 54) The new resources were meant to replace traditional resources, e.g. "*artificial insemination* should replace [...] the local breeding animal market" and "*aesthetic criteria* used in traditional [...] routines were no longer useful" (p. 55).	Using the new resources created problems, e.g., *artificial insemination* "proved to be difficult to perform in mountainous areas" and resulted in farmers being "criticized by their peers for the ugliness of their animals" (p. 58). Some farmers also used the new resources differently than envisioned: they "integrated *additional criteria* and performed *artificial insemination* on more animals in their flocks than [...] required" or they used the *genetic indexes* to sell their animals (p. 58/59).
Turner and Rindova (2012)	How do routine participants balance pressures for consistency in the	In the waste collection routines, participants used *connections* to share information and work out agreements (p. 35). "*Connections* across crews and hierarchical levels were [also] used to reenvision	n/a	n/a

	face of ongoing change?	action sequences and make them acceptable" (p. 37). A variety of artifacts, such as "the *quadrant system*, *routes*, *paths*, and g*arbage preparation rules*" were used to standardize the tasks (p. 33).		
Obstfeld (2012)	How can organizational routines and creative projects be compared?	The prototype parts purchasing (PPP) routine at an automotive manufacturer "involved an *engineering request* for a part or part change, the solicitation of one or more *supplier quotes*, [...] the generation of a *supplier purchase order*, receipt of *parts*, and *supplier payment* " (p. 1577). To enact the routine, engineers used their *connections* with the purchasing unit's manager to request parts, and the PPP manager used his *relationships* with a range of suppliers to get quotes (p. 1577, 1579). The PPP manager also used *emotions* involved in "shouting at suppliers or engineers" to enforce compliance with the formal procedures (p. 1580).	Dan, the program manager of the G5 vehicle, used his *frustration* with the PPP routine to start a new initiative that would create a new purchasing unit specifically dedicated to managing the G5 prototype process (p. 1582). Dan created the *slogan* "getting the right parts in the right cars at the right time" (p. 1584) to rally support for his initiative. He also used his *relations* with units outside his own division to recruit individuals for his new unit (p. 1581). Dan's initiative was successful in creating *a new purchasing unit* consisting of a six-person team and a team leader (p. 1585).	*Connections* between the engineers and the suppliers created problems when they were used to "flout procurement guidelines by making changes without the PPP unit's approval" and "to order extra parts off schedule" (p. 1580).
Cacciatori (2012)	How are routines shaped by the artifactual context in which they operate?	At an engineering design firm, actors use different *product representations*, *sketches*, and *technical drawings* to enact the bidding routine. *Bid meetings* were used to make key decisions on the content of the bid (p. 1571).	To redesign the bidding routine, managers introduced an "*Excel Workbook* used to estimate costs over the entire life cycle of a building" (p. 1560). The *Excel Workbook* was further adapted when actors realized that it was too flexible and did not allow reintegration into a global representation. Actors also introduced new *meetings* to analyze the interdependencies between different units. (p. 1575).	*Sketches* and *drawings* created problems in enacting the new bidding routine because it was difficult to give and receive feedback on the basis of them (p. 1571). The *bid meetings* turned out to be ineffective because too many people participated. As a result of these problems, managers introduced new artifacts and new procedures (see left column; p. 1571).
Bapuji et al. (2012)	How do individual actions get coordinated and become repetitive?	The towel-changing routine in a hotel uses *printed signs* to "ask hotel guests [...] to be considerate in their use of these towels". The *placement of the towel in a certain designated place* , in turn, is used as a resource by the housekeeper to decide to "either replace the towels with fresh ones or fold the used towels for reuse" (p. 1591).	n/a	The *placement of the towel* created problems because housekeeping found it difficult to interpret "the intentions of guests: 'the guests throw towels all over the place—tub, floor, counter tops, bed, chair, everywhere'. Therefore, replacing all used towels with fresh towels at [the hotel] was the rule rather than the exception" (p. 1593).
Turner and Fern (2012)	How does the performance experience of actors influence responsiveness to contextual changes?	In the waste collection routine, supervisors used '*routes'* and the *five-day work week* [temporal resource] to assign a specific territory to a delivery person. The field employees then used *an automated process technology* and *general industry heuristics* to collect waste. *'Fill-in' drivers* were used to cover driver vacations and absences (p. 1415-1417).	n/a	n/a

* Resources are emphasized in *italics.*

Note: We used the literature review of empirical practice-based studies by Parmigiani and Howard-Grenville (2011) as the basis for our own review. Extending their search for relevant papers, we searched the journals included in their review (*AMJ, ASQ, Mgmt Science, Org Science, SMJ, Ind. & Corp. Change, JMS, Org Studies & SO*), covering the years 2011 to 2013. In analyzing the empirical studies presented in these papers, we focused on the resources that were particularly salient in these studies.

aesthetic criteria to evaluate animals were replaced by genetic criteria (Labatut et al., 2011).

Third, resources can create problems in enacting routines and may be used differently than originally expected. For example, in a hotel towel-changing routine, the placement of the towel (a resource for deciding whether it should be replaced or not) created significant problems because it did not indicate customers' intentions clearly, so housekeeping staff always changed the towels (Bapuji et al., 2012). In the housing routine, a resource became problematic because it was used to enact another routine: building directors encountered significant difficulties when the athletics department decided to use the day designated for moving in to stage the season's first football game (Feldman, 2000). And actors may use resources differently than expected—for example, Feldman (2003) notes how actors used the forms in the budgeting routine to list all desired projects, instead of arriving at a consensus of projects as intended by their supervisors, while D'Adderio (2003) observes software being used as an 'interfacing' rather than an 'integrating' device, as was originally intended.

Although resources are described implicitly in studies on routines, as part of both the ostensive and performative aspects, they are still curiously absent from theorizing about routine dynamics. To address this gap, we employ the theory of resourcing (Feldman, 2004; Feldman & Worline, 2011) which allows us to capture the relationships between schemas, resources and action that drive the development of routines.

3.2.2 Resourcing Theory

The theory of resourcing builds on Giddens (1984) and Sewell (1992); in particular, the idea that structures are "sets of mutually sustaining schemas and resources that empower and constrain social action" (Sewell, 1992: 19). Schemas are defined – as they are in the ostensive aspect of routines (Dionysiou & Tsoukas, 2013: 191)—as "generalizable procedures applied in the enactment/ reproduction of social life" (Sewell, 1992: 8), and resources as "anything that enables actors to enact schemas" (Feldman, 2004: 296). Thus schemas and resources mutually imply each other: "schemas are the effects of resources, just as resources are the effects of schemas" (Sewell, 1992: 13).

Developing these ideas further, Feldman (2004) offers a dynamic perspective on the interplay between schemas and resources. Incidentally, she does not relate her findings to the theory of routine dynamics, but rather develops a theory of resourcing that describes a general dynamic in organizations (Feldman & Worline, 2011). Resourcing theory has subsequently been picked up in different fields of research, such as compassion organizing (Dutton, Worline, Frost, & Lilius, 2006), family businesses (Glynn & Wrobel, 2007) or courageous collective action (Quinn & Worline, 2008), but there has been no attempt to date to bring

together the theories of routine dynamics and resourcing.

Resourcing theory assumes that resources are created and changed to enact schemas, just as schemas are created and modified by resources (Feldman, 2004; Feldman & Worline, 2011). The essential element enabling the interplay between schemas and resources is action (Feldman & Quick, 2009; Feldman & Worline, 2011). In this regard, resourcing theory resonates strongly with the theory of routine dynamics, because it describes the dynamic relationship between structural elements, i.e., schemas and resources, and agential elements, i.e., actions. Resourcing describes the link between action, schemas and resources: actions link resources to schemas, thereby turning potential resources into resources-in-use and possibly changing schemas (Feldman & Quick, 2009). Ortmann (1994: 156) illustrates this with the example of the Berlin Wall: "a pile of stones and concrete is not yet a wall, a wall in itself not yet a border, as could be seen in Berlin 1989 [translated]". How assets are used, and for what purposes, determines the kind of resources they become (Feldman & Worline, 2011).

The literature emphasizes three key characteristics of resourcing. First, resourcing is endogenous because "resources are not exogenous and fixed, but rather generated as they are brought into use" (Feldman & Quick, 2009: 138). Resources are not necessarily depleted as they are used, but they are "constituted and reconstituted in the doing of work" (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005: 543). As a result, resourcing may result in the unanticipated creation of emergent resources. For example, Dutton and her colleagues (2006) find that, in responding to human suffering, actors create emergent resources, such as formal and informal roles or powerful symbols that encourage others to become engaged. At the same time, resources may create or empower schemas in unpredictable ways. For example, Feldman (2004) finds that the change of resources used in university housing routines empowered the specialist system of resident staff, but weakened the building directors' preferred schema as educators and community leaders; a consequence that none of the actors anticipated.

Second, resourcing can be generative when it continues in—theoretically indefinite—cycles in which newly created resources energize or give rise to new schemas that were not previously conceivable (Feldman & Worline, 2011). Feldman and Worline (2011), for example, describe how a teacher may use wooden sticks with students' names to randomize their participation (Feldman & Worline, 2011; Jaquith, 2009), which may lead to them being more engaged. More engaged students may give rise to a schema of encouraging critical thinking and, in turn, those engaging in critical thinking may energize the schema of learning through peer-to-peer conversation and interaction. Quinn & Worline (2008) demonstrate just

how generative endogenous resourcing can be: during the hijacking of Flight 93 on September 11th 2001, the passengers and crew engaged in resourcing cycles that allowed "a group of strangers to organize a courageous response to a frightening and unimaginable situation" (Quinn & Worline, 2008: 497) – and to engage in collective action that none of them could have predicted before.

Third, the dynamics of resourcing are enabled by the polysemy of resources and the multiplicity and transposability of schemas. Resources are never unambiguous and can be interpreted in different ways (Sewell, 1992), and so may teach different schemas to different actors in different situations. For example, in Feldman and Quick's (2009) study, a budget survey administered by city managers caused anger amongst citizens because it fell short of their expectations for participation. This anger gave rise to a schema of 'Us vs. Them' amongst citizens, but was engaged by city managers to energize a schema of 'reengagement' that led to city managers and residents interacting constructively. At the same time, multiple schemas are available to actors to choose courses of action (Sewell, 1992): because they take part in different interactions (Dionysiou & Tsoukas, 2013) and are embedded in different structures (Howard-Grenville, 2005), they "are capable of applying a wide range of different and even incompatible schemas" (Sewell, 1992: 17). Even when people act in relatively unreflective ways, they still need "to select, and appropriately apply [...] schemas of action" (Emirbayer & Mische, 1998: 975).

The growing literature on resourcing reveals two further aspects that are important for our study. First, Howard-Grenville (2007) finds that resourcing is not always effective: failing to resource schemas in the context of issue-selling resulted in thwarted initiatives. Second, even though most studies focus on how resourcing is guided by the schema that is enacted (e.g., Dutton et al., 2006; Feldman & Worline, 2011), recent studies indicate that it is equally likely to be guided by the resources that are available. Put differently, actors draw on potential resources at hand that make certain actions easier. For example, Howard-Grenville and her colleagues (2011) find that change agents resource everyday occurrences opportunistically to enact culture change; in contrast, Sonenshein (2013) finds that managers may deliberately withhold certain resources and provide others to guide their employees' resourcing efforts.

The theory of resourcing provides a rich foundation for analyzing how actions, schemas and resources come together to produce routine dynamics. Drawing on resourcing theory, we conceptualize the structural part of routines (the ostensive aspect) as the combination of specific schemas (established schemas) and specific resources (resources-in-use) that produce the same pattern of action repetitively over time. The agential part (i.e., the

performative aspect), are the specific actions that link schemas and resources in specific situations. Some of these actions combine schemas and resources in novel ways—in what resourcing theory refers to as 'resourcing'. Against this background, we specify our research question: *How does the interplay between schemas, resources and actions influence routine change?*

3.3 Methods

This paper is based on a one-year ethnographic study at CellCo (pseudonym), a start-up company in the pharmaceutical industry (see also chapter 2 in this thesis in which we use the same research setting and routines to examine a different aspect of routines from a different theoretical lens). We took an inductive approach to theory building by observing and analyzing the development of routines at CellCo. Initially, we were broadly interested in how routines form and develop in an entrepreneurial setting. Like any start-up, CellCo was constrained in access to traditional types of resources (Baker & Nelson, 2005; Sonenshein, 2013) such as financial, physical or human resources, so, early in our study, we started to pay attention to the resources its employees drew on to enact and to change routines. CellCo provided an ideal setting for observing and analyzing how resources were involved in routine stability and change: CellCo's customers in the pharmaceutical industry placed high demands on quality, reliability and stability (Anand, Gray, & Siemsen, 2012), but at the same time CellCo's ambitions to grow required it to constantly adapt its routines.

3.3.1 Research Context

CellCo was founded as a university spin-off in 2009 with the primary aim of marketing a patented technology for producing cell tissues for pharmaceutical companies. CellCo produced (1) standard, off-the-shelf cell tissues, (2) customer-specific cell tissues, and (3) proprietary, rectangular plates to grow and analyze cell tissues. At the start of the study, CellCo had 18 employees and its management team consisted of the three founders and a quality manager. Our initial observations and interviews had a broad focus to get to know the company and its routines. After several weeks, we decided to focus on six specific routines in the area of production and operations that CellCo's employees recognized as particularly important for their work: the assembling of plates, the standardized production of cell tissues, warehousing, shipping, quality management and project management. Focusing on these routines allowed us to observe almost all the performances, interactions and meetings related

to them.

In this paper we analyze two routines—the assembling-of-plates routine (referred to below as 'assembling routine') and the shipping routine. The assembling routine was prominent from the beginning of the study, since it was the basis for CellCo's patented technology, whereas the importance of the shipping routine only emerged over time, and its increasingly central role took everybody by surprise. Due to the fragile, biological nature of cell tissues, shipping them (especially abroad) was more complex and difficult than expected. At the same time, CellCo's customers based as much as 50% of their buying decisions on the firm's ability to ship plates quickly and reliably. Both the assembling and the shipping routine changed substantially during the course of our study, providing two ideal cases which allowed us to analyze in detail how the interplay between schemas, resources and actions contributed to routine development. Focusing on these two routines also proved useful because they were connected—through schemas and resources—in ways that we initially did not expect, so analyzing them together allowed us to understand the role of resources and schemas in connecting routines into an 'ecology' (Birnholtz, Cohen, & Hoch, 2007; Pentland, 2011). We included additional routines in our analysis when they were influenced by or impacted on our two focal routines.

Both the assembling and the shipping routine exhibited the typical characteristics of routines (Feldman & Pentland, 2003): First, both were highly repetitive – we observed over 80 performances of the assembling routine and over 100 of the shipping routine during the year of our study. Second, both routines involved multiple actors: the assembling routine required the interaction of lab employees, student assistants, the head of R&D and the quality manager, while the shipping routine required the interaction of the CEO, sales agents, lab and administrative employees and the quality manager. Some employees were involved in both routines, and some responsibilities shifted several times during the study. Third, both routines were characterized by recognizable, abstract patterns of action. At the beginning of our study, the assembling routine exhibited the following pattern. The head of R&D arranged a time to assemble plates with all available lab employees. These employees then prepared all the necessary input materials and devices in the laboratory. They next quality-checked the input materials, assembled the parts into a plate and labelled it. The plates were then inserted into bags, which were sealed and put into larger boxes, after which the lab was cleaned. Next, the head of R&D delivered the boxes of plates to SteriCo for sterilization, and returned several days later to pick up the boxes and return to them CellCo's warehouse. Table 8 depicts an exemplary performance of how these steps were enacted.

Table 8: The Pattern of Action of the Assembling Routine (at the start of our observations)

Steps	How steps are enacted (exemplary performance)
(1) Arrange a time to assemble with available lab employees	On Friday Taylor (head of R&D), wants to get some plates from the inventory and notices that there are almost none left. He immediately announces that next Tuesday everybody available would need to help assemble plates. Laura and Susan (the lab employees) sigh: assembling on Tuesday means that they cannot do the lab cleaning and experiments they had planned for Tuesday.
(2) Prepare all necessary input material and devices in the laboratory	On Tuesday morning, Laura and Taylor get the boxes with input material—including frames, strips, trays and bags—from the inventory room and put them into the lab. Taylor ensures the assembling is under way and then returns to his office. On entering the lab, Laura puts on her lab boots, coat and goggles, then walks over to a workbench and cleans the surface with ethanol. Next, she takes the frames, strips and trays from the boxes and piles them up on the workbench. She prepares enough input material for about 50 plates. Meanwhile, her colleague Susan prints about 250 labels for the frames on the label printer in the main office, and then joins Laura in the lab.
(3) Perform quality check on input material	Laura puts on some disposable gloves and sits down in front of the bench. She takes the 'levelness tool' (a stencil) and puts it under each frame to check whether it is level, and discards any that are not. Susan sits next to her and starts to assemble (see next step).
(4) Assemble input materials into a plate & label it	Susan starts to assemble a plate by putting one strip after another into the rectangular frame, pushing them gently into the frame until they snap into place. She sorts out any strips that are broken or break and puts them into a small box at the corner of the workbench. After putting 12 strips into each frame, she sticks a label with the lot number onto its shorter edge, and puts the frame into the bottom of a tray. Then she puts the lid on top of the frame, and piles the final plates on a corner of the workbench. While Susan continues to assemble the plates, Laura already starts to put the plates into bags (see next step).
(5) Insert four plates in a sealing bag	Laura takes several bags from a box and inserts four plates into each bag, piles the bags into a larger box until it is full, and then carries it over to the R&D lab.
(6) Seal the sealing bag	In the R&D lab, Laura puts the box with the plates by the sealing machine. She starts the sealing machine, waits several seconds while it warms up and then slides the open end of each bag through the machine to seal it. She puts the sealed bags back into the box. Laura and Susan continue to assemble plates and seal them into the bags until they have assembled, bagged and sealed 250 plates—which takes several hours.
(7) Put bags in boxes	When they are finished, Laura and Susan put all the bags with plates into two large boxes which they store in the R&D lab.
(8) Clean lab	They return the boxes with the remaining input material into the inventory room, clean the work bench with ethanol and put the waste input material and labels into the waste bin. Since they are the last employees in the lab for the day, they perform some final checks (e.g., whether all devices are turned off), take off their lab boots, coats and goggles and leave the lab, locking it up.
(9) Deliver boxes with plates for sterilization	The next day, Taylor orders the sterilization by filling in a Word document and emailing it to SteriCo. He gets the access card from the car sharing provider GoCar, puts the two boxes of plates onto a small trolley and takes it down to the underground parking. He opens the car that he has reserved with the access card and loads the boxes into the car. He drives two hours to SteriCo, parks the car in the arrivals area and hands over the two boxes with a copy of the order to the employee of SteriCo. Then he returns to his office.
(10) Pick boxes up and return them to CellCo's warehouse	Seven days later, Taylor returns to SteriCo in the car from GoCar, picks up the boxes from the collection area and drives back to CellCo's headquarters. There he takes the two boxes upstairs to CellCo's offices and puts them into the R&D lab where assembled plates are currently stored.

Table 9: Two Distinct Patterns of Action in the Shipping Routine (at the start of our observations)

Pattern 1: Shipping plates (and other non-biological products)		Pattern 2: Shipping cell tissues (and other biological products)	
Steps	**How steps are enacted (exemplary performance)**	**Steps**	**How steps are enacted (exemplary performance)**
(1) Receive a customer order	On Monday, Chris, the CEO, receives the order for 50 plates from a customer in the US.	(1) Prepare cell-tissues for shipment	Stephen, a product manager, arrives early on Tuesday morning to prepare cell-tissues for shipment to a customer in Belgium. He collects the tissues from the incubator in the lab and transfers them onto a special plate for shipment. He inserts the shipping medium that turns viscous at room temperature and puts a membrane on the plate.
(2) Initiate the shipment	He asks Nik to prepare the shipment as soon as possible, ideally the next day.	(2) Put the content into a box	He then gets a used thermal box from the storage room, puts in some dry ice from the freezer and adds the two plates with cell tissues, adding some Styrofoam while packing.
(3) Put the content into a box	On Tuesday morning, Nik gets 50 plates from the inventory in the R&D lab and looks for a suitable box among the used boxes. He puts the plates, a manual and some sheets and Styrofoam to protect the plates into the box.	(3) Initiate the shipment	Stephen hands over the box to John and asks him to finalize the shipment.
(4) Order the shipping provider online	Meanwhile, Chris, orders the shipment provider ShipCo online from his computer. As CellCo already has an account at ShipCo, he simply logs in, inputs the shipment details and sends the order.	(4) Order the shipping provider online	John goes to his computer and logs into the ShipCo account . He pulls up the previous order he sent to the company and uses it as a template for this shipment. He enters the details for this shipment and sends the order.
(5) Prepare the shipping documents	Chris prints out the shipping documents from ShipCo, signs them and hands them to Nik.	(5) Prepare the shipping documents	Next, John opens three special customs documents required for biological shipments, fills in the details and prints them, along with ShipCo's shipping documents.
(6) Close the box and attach the shipping documents	Nik closes and seals the box with tape. He puts ShipCo's shipping documents into one of their special envelopes and sticks it onto the box. He keeps the box until the ShipCo rep arrives.	(6) Close the box and attach the shipping documents	John closes and seals the box, puts the shipping and customs documents into the ShipCo envelope and sticks it onto the box. He puts the box into a cooling chamber to keep it cold until the ShipCo rep comes to pick it up.
(7) Hand over the box to the shipping provider	The rep arrives around noon time and asks for the box to be picked up. Nik hands over the box and, after a short chat with the rep, continues with his work.	(7) Hand over the box to the shipping provider	Around one o'clock, the rep arrives and asks for the shipment. John gets the box from the cooling chamber and hands it over to him.
		(8) Confirm the shipment arrives safely	The next day John calls the customer to check whether the shipment has arrived. The customer tells him that the cell-tissues have already arrived and appear to be alive—so John feels relieved.

The shipping routine followed two distinct patterns of action: (1) the shipping of plates and (2) the shipping of cell tissues. The shipping of plates typically exhibited the following pattern: the CEO or a sales agent received a customer order and initiated the shipment. An employee then put the plates and associated material into a box, ordered the shipment supplier, prepared the shipping documents, closed the box and attached the documents. When the shipping supplier's representative arrived, the employee handed over the box. The shipping of cell tissues was more complex and difficult, resulting in a slightly different pattern of action: First, a lab employee prepared the cell tissues for shipment, put the required content into a box and initiated the shipment. Another employee then ordered the shipment supplier online, prepared the shipping and customs documents, closed the box, attached the documents and handed it over to the shipment supplier. The employee then called the customer to confirm that the shipment had arrived there safely. Table 9 exhibits an exemplary performance of how these steps were enacted.

3.3.2 Data Collection

The main field work lasted from February 2011 to February 2012, and was complemented by further visits to the company in April and August 2012, and April 2013. The first author collected data primarily through non-participant observation, audio-recordings, interviews and documents. She spent two to three full days a week at CellCo, observing employees' daily interactions and practices, participating in meetings and social activities and accompanying employees to supplier and customer meetings and to a trade fair. Her presence at CellCo was quickly accepted and CellCo's employees were open in providing her with detailed information. She documented her observations by recording field notes manually in a notebook, transferring them to electronic documents and extending them within 24 hours (Emerson, 1995). She also audio-recorded formal and informal meetings whenever possible to capture discussions about the routines and their performances. These recordings were transcribed with the help of several external transcription providers.

The data collection was complemented by semi-structured interviews with most organizational members, frequent informal discussions (Spradley, 1979) and the collection of documents related to the routines observed. Over the course of the study, we carried out 30 semi-structured interviews, ranging from 30 minutes to 2.5 hours, and collected numerous documents, including 29 checklists related to the assembling of plates and 94 electronic shipping files, each containing documents relating to one particular shipment. In all, we assembled close to 1,000 pages of field notes, 3,000 pages of transcripts (reflecting 150 hours of meetings, interviews, and conversations) and approximately 8,000 internal documents.

3.3.3 Data Analysis

During the course of the study, we met continually to make sense of our observations and to document our insights. After finalizing the main body of data collection, we took an iterative approach to analyzing the data, circulating back and forth between our empirical material and the literature. At each step, we analyzed the assembling and the shipping routine independently and then compared our findings. This approach enhanced our interpretations and increased our confidence in the analysis: for example, failures in resourcing were more evident in the shipping routine, and these findings then helped us to understand failures in resourcing in the assembling routine.

The data analysis proceeded in four stages. First, we constructed a detailed time line of events for both routines, drawing on field notes and interviews. We used the checklists from the assembling routine and the electronic files of the shipping documents to close any gaps in the timeline and triangulate our observations and interviews. During this stage we realized that the lack of or a change in the resources used to enact a routine often caused actors to look for other alternative resources and to adapt the routine accordingly. Moving back and forth between the literature and the empirical material, we recognized the theory of resourcing (Feldman, 2004) as a particularly fruitful theoretical perspective that not only allowed us to position resources in the theory of routine dynamics, but also to deepen our analysis and thinking.

In the second stage, we began to develop descriptive codes about the resources actors used to enact the routine and how they used them. This initial analysis was guided by three questions: (1) What triggered resourcing? (2) When was resourcing effective and what happened if it was not? (3) When did variations in enacting the routine become part of the abstract pattern of action? However, we soon realized that analyzing resources and resourcing in a chronological fashion did not allow us to see the patterns that stretched across multiple performances and across multiple routines.

In a third step, we therefore sketched some processual diagrams (such as Figure 5 in the findings section) tracing the relationship between schemas, actions and resources. The diagrams were inspired by figures depicted in Rerup and Feldman's (2011: 588) study of routines and Barley's (1986: 82) study of technology that differentiate between the "structural realm" and the "realm of action". Similar to Rerup and Feldman (2011), we decided to split the structural realm, distinguishing between schemas and resources as two distinct elements of the structural realm. We developed over 40 such diagrams of different instances in which the interplay between schemas, resources and actions produced variations in performances, and

occasionally changes in the ostensive aspect. We identified multiple patterns of this interplay, including generative resourcing cycles within a routine and across several routines, that produced different outcomes. Abstracting from these instances, we developed an empirical model of the interplay between schemas, resources and actions shown as Figure 4 in the findings section.

At this stage, we also identified and defined the eight key concepts of our analysis: (1) *Established schemas* are those shared schemas (Dionysiou & Tsoukas, 2013) that have been enacted in past performances of the routine and which actors recognize as part of the ostensive aspect. (2) *Resources-in-use* are those resources that have been used in past performances to enact established schemas. They are assets and things that exist "in particular times, places and quantities" and are actualized "in people's minds and bodies" (Sewell, 1992: 10); they are also the tacit knowledge of how to use particular assets and things to enact particular routines. (3) Established schemas and resources-in-use together constitute the *ostensive aspect* of the routine because their enactment produces the pattern of action that actors recognize as 'the routine'.

In contrast, (4) *alternative schemas* are not part of the ostensive aspect, but may possibly be applied to enact a routine. While established schemas are always enacted schemas, alternative schemas may also be envisioned schemas that actors might hope or plan to enact (Rerup & Feldman, 2011). (5) Similarly, *potential resources* are those assets and things that actors recognize as potentially useful in enacting routines, but which have not yet been used for that purpose. Actors can recognize a wide range of assets and things as potential resources—their connections to a routine mark the boundaries of what constitutes potential resources and what not (Feldman & Worline, 2011). (6) The *performative aspect* refers to specific performances when actors enact established schemas by drawing on resources-in-use, or enact alternative schemas and use potential resources.

(7) *Resourcing* refers to creating new resources, changing resources-in-use or drawing on potential resources to enact established or alternative schemas. A resourcing cycle describes how actions link resources and schemas in ways in which they have not been linked before (Feldman & Quick, 2009). (8) *Generative resourcing cycles* refer to several, continuous resourcing cycles in which newly created or modified resources give rise to new schemas and thus to further resourcing.

Even though schemas, resources and actions are analytically distinct, their identification in empirical studies depends on the specific context and focus of analysis. Indeed, something can be a schema, a resource or an action, depending on the context and the

analysis involved (Feldman & Quick, 2009). Drawing on the definition of routines as task-specific patterns of actions (Pentland & Feldman, 2005; Rerup & Feldman, 2011), we identified the assets and things that actors used to accomplish particular tasks, i.e., assembling plates or shipping products, as resources. In turn, we identified established and alternative schemas in actors' conversations about *how* to accomplish that task. We interpreted the summarizing and general descriptions of actions as represented in talk and checklists as established schemas, and comments about deviations in performing the routine as alternative schemas. For example, at the beginning of our observations the established schema was 'insert plates in a 2x2 arrangement into one bag' (as described in the checklist). One day, Chris (the CEO) asked the lab employees to put 80 plates each into separate bags so that they could be used as free samples in the sales routine. This alternative schema of 'insert one plate per bag' was enacted only once. One of the resources-in-use to enact the established schema was a large bag, while the potential resource to enact the alternative schema was a smaller bag.

Another difficulty in identifying resources was the enormous amount of them involved, either in-use or potential. In analyzing our observations, we identified the main resources used to enact routines; those resources that caused problems in enacting routines; and potential resources which actors tried to draw on to enact routines. For example, we recognized 'Tuesday morning' as an important temporal resource in enacting the shipping routine because it caused problems in enacting other routines, such as the lab and the management meetings. As a consequence, in our analysis, we did not identify all the resources-in-use and potential resources that were available to enact the two focal routines, but this approach seemed acceptable as we were specifically interested in the role of resources in routine change.

At the last stage of our analysis, we collected the different mechanisms of routine change that we identified in the different patterns of resourcing and compared our findings to the literature on routine dynamics. We theorized the interplay between schemas, resources and actions as mechanisms of variation and selective retention (see also Figure 8), thus extending the existing evolutionary model of routine change.

3.4 Results

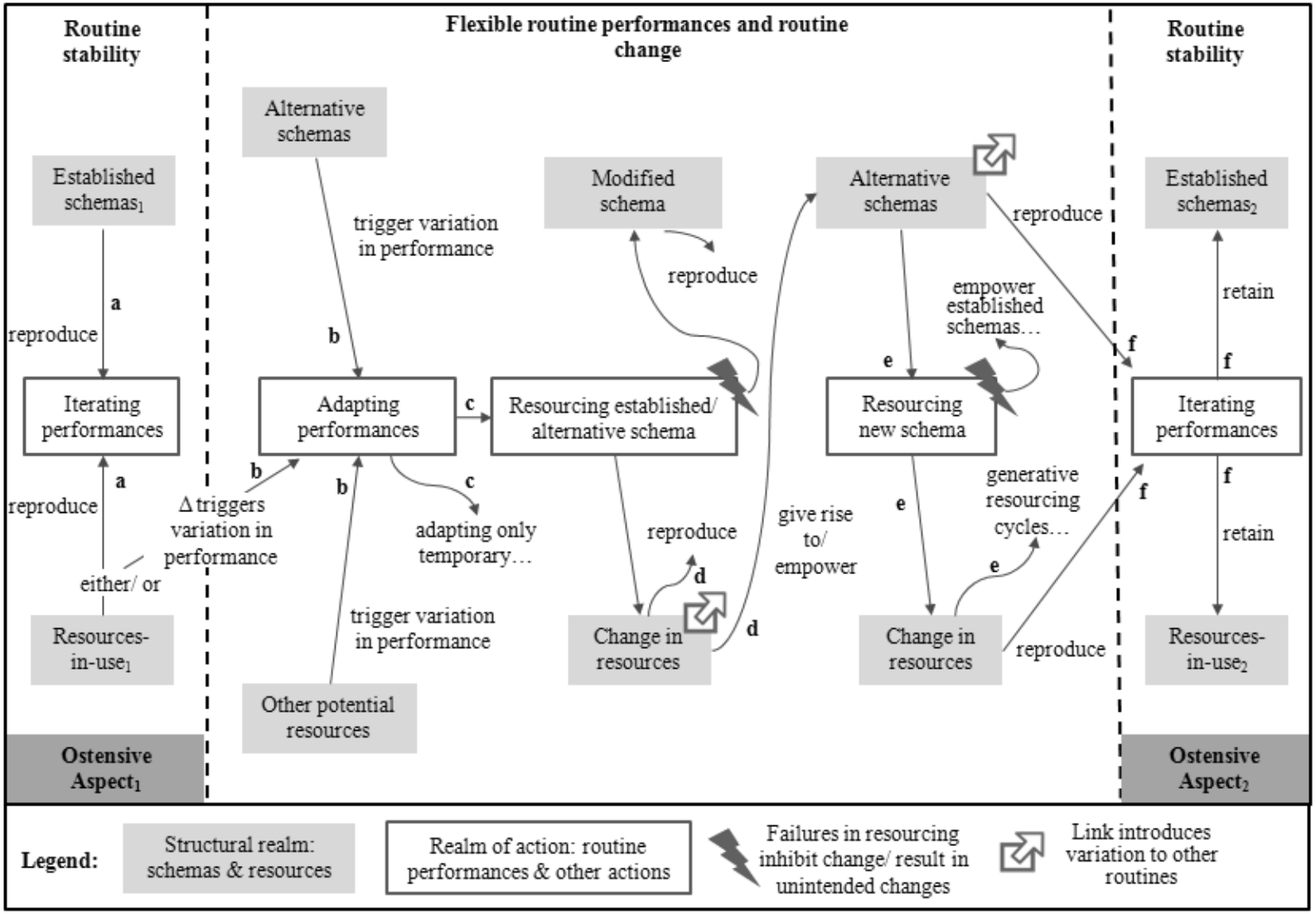
In this section we present our findings in three parts: (1) resourcing within routines, (2) failures in resourcing and (3) resourcing across routines. To simplify the presentation of our findings, we illustrate our points primarily with examples from the assembling routine,

although our findings also derive from analyzing the shipping routine. Appendices 1, 2 and 3 describe the examples from the assembling routine in more detail and give additional examples from the shipping routine.

Figure 4 provides a process overview of our key concepts, abstracting from our individual observations of the two routines. Starting on the left, it depicts how the routine is reproduced through repeated performances (routine stability) by drawing on established schemas and resources-in-use (arrows a). Alternative schemas, changes in resources-in-use or potential resources may trigger variations in routine performances (arrows b). Such variations may include adapting actions only temporarily (without resourcing), or resourcing established or alternative schemas, i.e., by creating new resources, changing resources-in-use or drawing on potential resources to enact schemas (arrows c). The resulting changes in resources may be reproduced, or may give rise to or empower, alternative schemas (arrows d). These alternative schemas, in turn, are resourced in further performances, producing generative resourcing cycles that open up new possibilities for action (arrows e). As alternative schemas and changes in resources are reproduced over time, contributing to repeated routine performances, they are retained in the ostensive aspect as established schemas and resources-in-use (arrows f).

These are the basic dynamics of resourcing within routines as described in the first part of this section. Yet resourcing established or alternative schemas may also fail, or may inhibit routine change or result in unintended changes (depicted by two lightning bolts in Figure 4 and described in the second part below). Lastly, resourcing within one routine may have implications for another, either through changes in resources or alternative schemas (shown as boxed arrows pointing outwards, and described in the third part). Table 10 summarizes the different patterns of resourcing that we observed.

Figure 4: Process Overview of Key Concepts of Resourcing Within and Across Routines



3.4.1 Resourcing Within Routines

In analyzing the interplay between schemas, resources and actions within a routine, we identified three basic patterns of resourcing: (1) resourcing triggered by changes in resources, (2) resourcing triggered by changes in schemas, and (3) resourcing that continues over several generative resourcing cycles. We identified several slightly different variants of these basic patterns, some only resulting in temporary variations in performances, but some that also modified the ostensive aspect.

The first basic pattern of resourcing refers to variations in performing the routine that are triggered by changes in resources-in-use or potential resources. Such variations were frequent in our observations: we identified 23 variations triggered by resources in the assembling routine and 37 in the shipping routine (see Table 10). A representative example for variations triggered by resources is the missing access card of the car-sharing provider in the assembling routine (Appendix 1, example A). To deliver plates for sterilization, actors typically reserved a car from the local car-sharing provider GoCar, using the GoCar access card (a resource-in-use) to open and drive the car. One day, shortly before Christmas, when Alex, a temporary staff member, wanted to deliver 1,050 plates for sterilization, he could not find the access card: it turned out that Michael (one of the firm's founders) had accidentally taken it, but, not being in the office that day, could not return it. So the access card as a resource-in-use was temporarily unavailable. To continue enacting the established schema of 'delivering plates for sterilization by car', John, the quality manager, and Alex decided to rent a car from the more expensive car rental provider RentCar (resourcing the established schema). Michael returned the GoCar access card that evening, so Alex could use it once again for the next routine performance.

In this example, the variation in the performance was not reproduced subsequently: the established schema ('delivering plates for sterilization by car') and the resource-in-use (the GoCar access card) did not change. However, resourcing an alternative (i.e., renting a car from RentCar) allowed actors to flexibly perform the routine and overcome the problem of the temporary unavailability of a resource-in-use. Resourcing was guided both by the established schema and the potential resources that were available: neither Alex, John nor other CellCo employees had their own cars at the office that day. John also considered asking to borrow a car from employees of the start-up next door, but (from an insurance perspective) preferred to use RentCar, which CellCo's founders had used before, but typically for longer distances and time periods. Although RentCar was more expensive than GoCar, it seemed the

best alternative for delivering plates for sterilization.

Flexible routine performances may also be triggered by potential resources that become available by chance to help enacting established schemas. For example, one day an employee from the start-up next door delivered the plates for sterilization because he had to go to that provider in any case. In this case, resourcing was primarily guided by the potential resource (i.e., an employee from the neighboring start-up). We call this kind of situation—when actors draw on potential resources that become available by chance—'opportunistic resourcing' (see also example B in Appendix 1).

The second basic pattern—resourcing triggered by schemas—was also observed frequently, but less so than the first pattern. We observed 14 variations triggered by alternative schemas in the assembling routine and 20 in the shipping routine (Table 10). An illustrative example of this kind of variation was the idea that 'low-skilled employees assemble plates' (Appendix 1, C). At the start of our observations, the established schema was 'available lab employees assemble plates when the stock of plates runs low'. Because performing this schema occupied the time of expensive, high-skilled employees – and so caused frequent interruptions to other lab work—the CEO Chris instead suggested that 'low-skilled employees assemble plates' (an alternative schema to one aspect of the established schema). He proposed asking the two student assistants to assemble the plates (resourcing the alternative schema) and paying them separately. In addition, the quality manager John designed a checklist to provide the student assistants with clear guidelines for the assembling task (further resourcing). When the student assistants assembled the plates for the first time, the lab employees who had previously assembled plates supervised them (further resourcing). As the new arrangement seemed to work well, the lab employees no longer got involved and the student assistants continued to assemble. Put differently, the alternative schema ('low-skilled employees assemble plates') was enacted repetitively, drawing on the student assistants' working time as resources. Gradually, the resulting pattern of action became part of the ostensive aspect: 'low-skilled employees assemble plates' became the established schema and the student assistants' working time became the resource-in-use. The former established schema ('available lab employees assemble plates') and resources-in-use (lab employees' working time) did not cease to exist immediately, but faded into the background—they became alternative schemas and potential resources that we observed being drawn on only exceptionally when there was significant time pressure to assemble plates.

Our observations show that alternative schemas arise when actors experience problems enacting established schemas (see previous example and example D in Appendix 1), due to

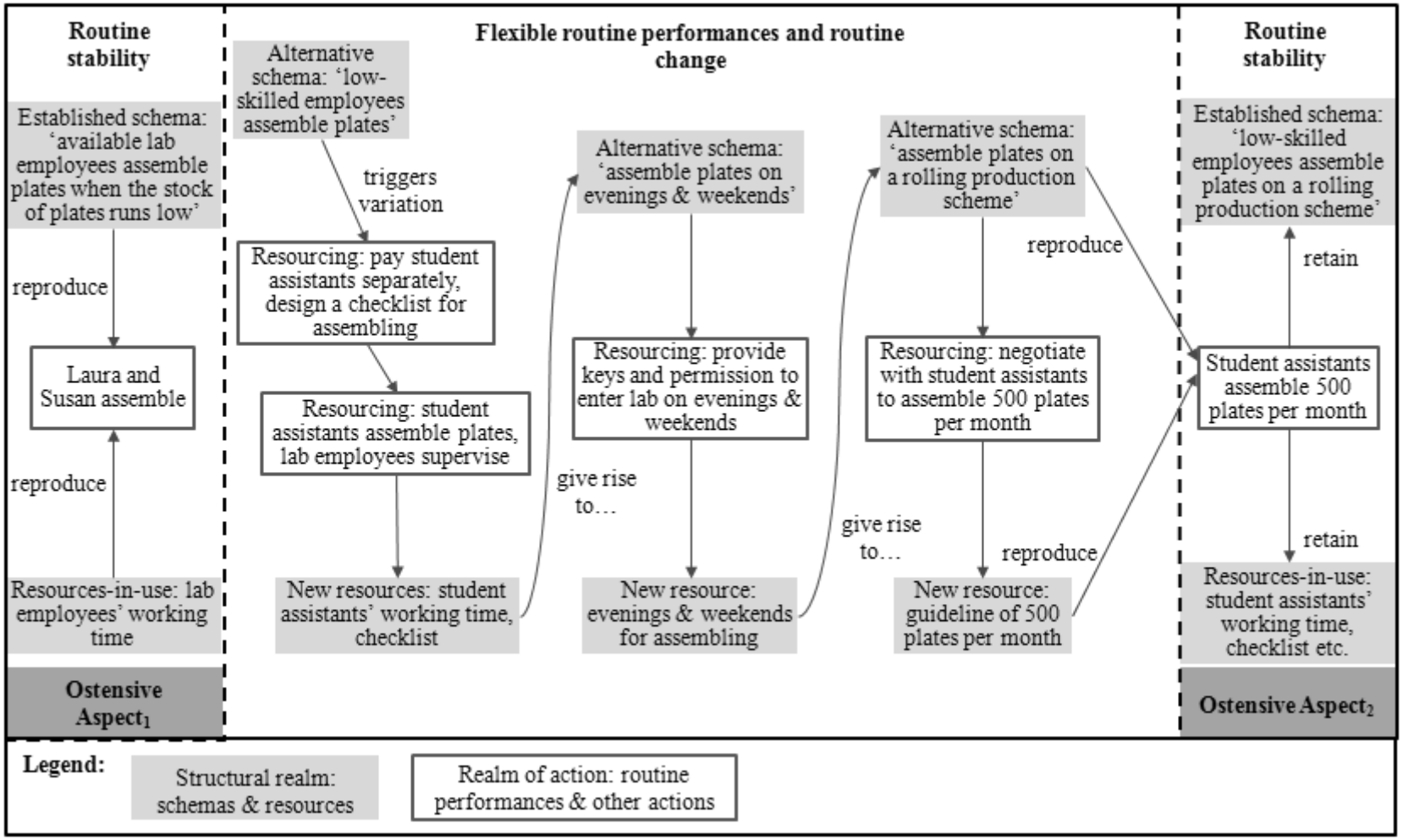
permanent changes in resources-in-use or from external sources. No matter where alternative schemas come from, actors need to resource them appropriately to be able to enact them. Resourcing alternative schemas might have only temporary effects on the performative aspect (e.g., see earlier example of 'insert one plate per bag'), but could also result in changes in the ostensive aspect. When schemas and resources become part of the ostensive aspect, they become shared, so routine participants recognize established schemas as the appropriate ways to enact a routine, and resources-in-use as the appropriate means to be used. Both established schemas and resources-in-use thus contribute to the "characteristic 'routineness' that enables us to identify [routines] as essentially 'the same pattern of action'" (Parmigiani & Howard-Grenville, 2011: 422).

The third pattern—several generative resourcing cycles—refers to resourcing within routines that gives rise to new possibilities of action: when newly created or changed resources give rise to new or empower existing alternative schemas, resourcing contributes to continuous routine change. Our observations show that generative resourcing cycles are much less frequent than single acts of resourcing: we observed one generative resourcing cycle in the assembling routine and six in the shipping routine (Table 10).

We extend the example of 'low-skilled employees assemble plates' to show the generative resourcing cycle this alternative schema triggered in the assembling routine (Appendix 1, E). When the student assistants' working time became resources-in-use, these resources gave rise to the idea that assembling could take place in the evenings and at weekends. The alternative schema 'assemble plates on evenings and weekends' improved the assembling routine in two ways: First, the task would not occupy work benches in the lab during regular working hours, and, second, student assistants would be able to better fit assembling into their own university schedules. To resource the alternative schema, the student assistants were given keys and the permission to enter the lab and offices in the evenings and over weekends. Using evenings and weekends (resources-in-use) for assembling in turn gave rise to the idea of 'assembling plates on a rolling production scheme', i.e., the continuous assembling of plates. Resourcing this alternative schema involved negotiating with the student assistants the specific amount of plates they would assemble every month. Assembling plates on a rolling production scheme solved another problem of the old established schema 'available employees assemble plates whenever plate stocks are low': so CellCo would never run out of plates again.

Figure 5 illustrates the generative resourcing cycles that were triggered by the alternative schema of 'low-skilled employees assemble plates'. These resourcing cycles

Figure 5: Generative Resourcing Cycle Within Assembling Routine Triggered by Alternative Schema 'Low-skilled Employees Assemble Plates'



unfolded in an unexpected way because ‘assembling plates on evenings and weekends’ had not previously been a conceivable schema. Actors had previously encountered problems in assembling plates during regular work hours, because the task occupied the two main work benches in the company’s small lab, but they had not thought of a way of solving them. Only when the student assistants’ working time became an available resource for assembling did the schema of ‘assembling plates on evenings and weekends’ become imaginable. Similarly, actors had not envisioned the schema of ‘assembling plates on a rolling production scheme’ until student assistants started to assemble plates flexibly on evenings and weekends. Generative resourcing cycles only continue when new or changed resources continue to give rise to alternative schemas and further resourcing: the resourcing cycles in this example stopped with the generation of the alternative schema of ‘assembling plates on a rolling production scheme’.

3.4.2 Failures in Resourcing

Not all resourcing efforts we observed were successful in the sense that actors were able to create or change resources so as to enact a desired schema. We distinguish between two patterns of failure: (1) failures in resourcing that empower established schemas and resources-in-use, so that actors repeat past performances (routine inertia), and (2) failures in resourcing that modify envisioned schema and resources, resulting in unintended changes of routines.

In the assembling routine, we observed 5 instances of the first pattern of failure in resourcing (routine inertia), and 10 such failures in the shipping routine (Table 10). A representative example for this pattern of failure is Taylor’s attempt to recruit Jacob (a student assistant), to deliver plates for sterilization by car (Appendix 2, G). Previously, Taylor (the head of R&D), had delivered the plates for sterilization by car himself. When the student assistants started to assemble plates (see above), Taylor asked Jacob to deliver plates for sterilization, drawing on Jacob’s working time as a potential resource for enacting the established schema of ‘delivering plates for sterilization by car’. But Jacob was reluctant to deliver the plates: he did not like driving and, anyway, he did not have a valid driver’s license. Surprised, Taylor could not think of another viable option other than to continue using his own working time (resource-in-use) to enact this step of the assembling routine himself: this failure in resourcing resulted in routine inertia.

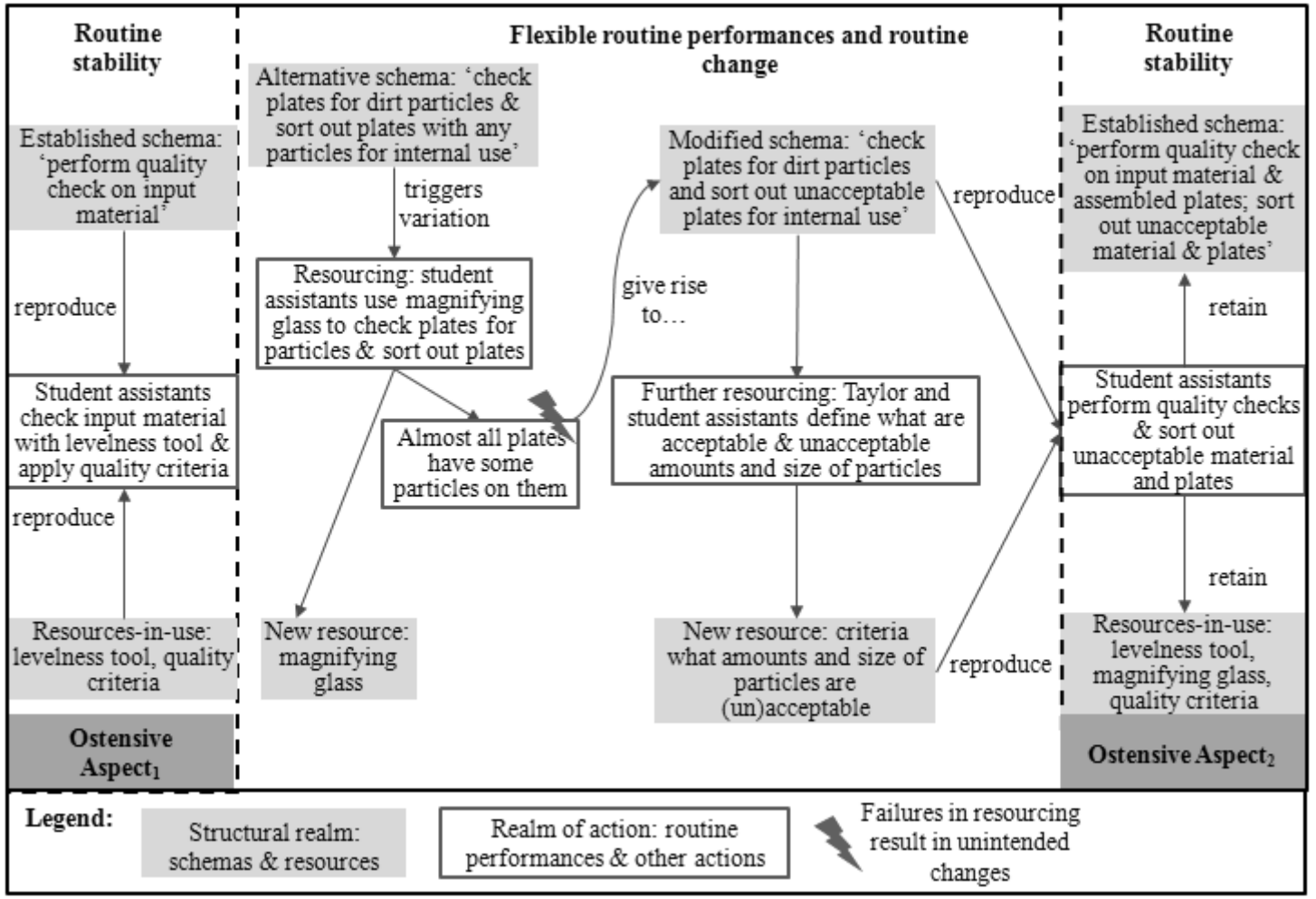
During our analysis, we identified several reasons for failures in resourcing; in some instances several reasons applied. First, resources which seemed to be potentially useful in enacting a routine in fact did not fit (or could not be changed to fit) the established or alternative schema that they were supposed to resource (e.g., Jacob didn’t have a valid

driver's license). Second, the routine (i.e., established schemas and resources-in-use) could not be adapted to fit potential resources. For example, in the shipping routine, Susan, the export manager responsible for shipments, raised the idea that 'low-skilled employees pack boxes for plate shipments' (alternative schema; Appendix 2, H). Although she showed Jacob how to pack the boxes, he was frequently not available immediately as he only worked part-time. Drawing on Jacob's working time for packing boxes would have required adapting the established schema 'finalizing shipments immediately', but the CEO Chris did not want to wait for Jacob and insisted on finalizing shipments immediately. So resourcing the alternative schema of 'low-skilled employees pack boxes for plate shipments' failed because another established schema of the routine ('finalizing shipments immediately') could not be adapted.

A third reason for the first pattern of failure in resourcing is that resources-in-use empowered established over alternative schemas. For example, the CEO Chris suggested introducing the idea of 'initiating shipments by filling in the order process router' into the shipping routine. The order process router was a document summarizing the customer's order and additional shipping instructions. Although actors filled in the router for every shipment, they continued to initiate the shipment by telling the person responsible to prepare the shipment (either verbally or by email), and usually only handed in the router when the shipment was almost finalized. Thus the resources-in-use (i.e., relations with the person responsible for shipments) empowered the established schema of 'initiate shipments by telling the person responsible'. Even though the potential resource for enacting the alternative schema, i.e., the router, was available, it remained easier to enact the established schema because the relation with the person responsible was an immediately available resource, while the router still had to be filled in.

The second pattern refers to failures in resourcing that give rise to modified schemas and generate further resourcing, with sometimes unintended and unexpected consequences. We observed 5 such failures in the assembling routine and 11 in the shipping routine (Table 10). The task of checking plates for particles was one such example in the assembling routine (Appendix 2, I; see also Figure 6 for illustration). When CellCo encountered increasing problems with dirt particles interfering with cell tissue growth on the plates, Taylor (head of R&D) asked the student assistants to 'check plates for dirt particles and sort out plates with any particles for internal use' (alternative schema). He gave them a magnifying glass and showed them how to identify the dirt particles (resourcing the alternative schema). But both he and they soon realized that almost all plates had some kind of particles on them, so applying the schema as envisioned would have resulted in sorting out almost all the plates.

Figure 6: Failure in Resourcing the Alternative Schema 'Check Plates for Dirt Particles and Sort Out Plates with Any Particles for Internal Use'



This failure in resourcing gave rise to a modified schema: 'check plates for dirt particles and sort out unacceptable plates for internal use'. To resource this modified schema, Taylor and the student assistants defined criteria for what were acceptable and unacceptable amounts and size of dirt particles. As student assistants continued to sort out unacceptable plates for internal use, the modified schema and the new resources (i.e., the magnifying glass, criteria as to what was acceptable) became part of the routine's ostensive aspect. Failing to resource the alternative schema adequately led to an unexpected change: despite CellCo's vision of only producing high-quality plates, CellCo now accepted that it produced plates with limited amounts of dirt particles. This change was inconceivable before, but was made necessary by the failure in resourcing.

As our observations show, success or failure in resourcing determines whether and how alternative schemas and changes in resources result in variations in performances. Resourcing also determines whether these variations are reproduced and so modify the ostensive aspect. If actors cannot resource alternative schemas adequately, they may either return to established schemas (routine inertia) or modify the alternative schemas (unintended changes). Actors may also not enact alternative schemas when resources-in-use empower established over alternative schemas. In consequence—and in line with our observations—chances in the appropriate resourcing and enacting of alternative schemas increase when resources-in-use are no longer available or have changed. Similarly, potential resources need to empower established schemas (i.e., enable actors to enact these schemas) to be repetitively used in routine performance, thereby becoming resources-in-use. If potential resources fail to realize their potential to enact established schemas (e.g., Jacob doesn't like driving), they lose their status as potential resources, and become assets unrelated to the routine.

3.4.3 Resourcing Across Routines

Resourcing not only influences the routine in which it occurs, but it may also impact other routines (see also Figure 4, boxed arrows). We identified two patterns of resourcing across routines in our observations. First, two or more routines may draw on the same asset as a resource-in-use, so a change in one routine may influence another by changing the resource-in-use. Second, resourcing in one routine may give rise to different schemas in another routine, without these routines necessarily being connected through shared resources-in-use. So generative resourcing cycles (as described earlier) may extend across several routines.

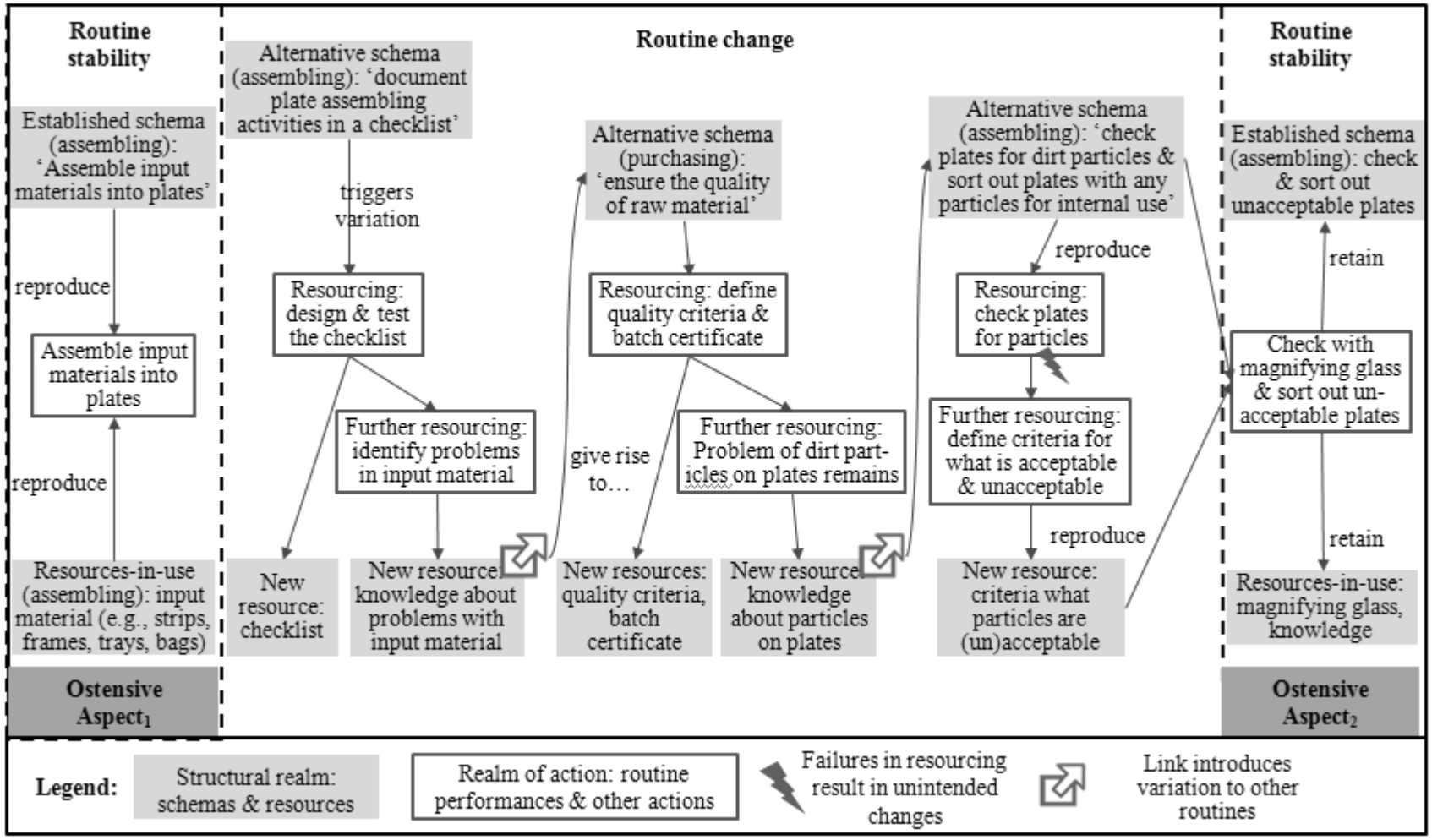
We observed the first pattern of resourcing across routines—i.e., two routines drawing on the same resource-in-use—seven times in the assembling routine and six in the shipping routine (see Table 10). This pattern is well illustrated in the example of the change in

CellCo's warehouse location (Appendix 3, K). Initially, both the assembling and warehousing routines drew on the same asset (the cupboards at CellCo's offices) as resources-in-use. The last step of the assembling routine involved picking the plates up from the sterilization provider, returning them to CellCo's offices and storing them there. The warehousing routine then included keeping track of stock (plates and other inventory) and providing the material for other routines. When participants in the warehousing routine ran out of space in the cupboards to store company inventory, they decided to rent additional space elsewhere to store both the assembled plates and other inventory items. So next time participants in the assembling routine picked up plates from sterilization, they delivered them to the new warehouse location, rather than CellCo's offices (resourcing). Although the established schema remained the same (i.e., 'delivering plates from sterilization to the warehouse'), the resource-in-use changed from space at CellCo's offices to the new external location: so the pattern of action (the ostensive aspect) changed slightly: instead of returning to CellCo's offices immediately, actors first made a detour to the new warehouse location. This example shows how the overlap in resources-in-use requires cohesion and consistency across routines: a change in resources-in-use in one routine triggers resourcing in the other routine to ensure an equivalent change.

An overlap in resources-in-use may also generate competition for resources. For example, participants in the shipping routine increasingly used 'Tuesday mornings' to prepare shipments, but this time-slot was also used to enact the lab and management meeting routines (Appendix 3, L). Initially, actors adapted performances of the lab and the management meeting by resourcing other times earlier or later on Tuesday. But the competition for this time-slot continued to cause problems, so the management team decided to move lab meetings to Wednesday mornings and management meetings to Monday mornings (changing resources-in-use). Put differently, the actors deliberately decoupled the three routines by reducing the overlap in temporal resources.

The second pattern of resourcing across routines—i.e., generative resourcing cycles across several routines—is less predictable than resourcing triggered by overlaps in resources-in-use, because newly created or changed resources in one routine may give rise to or empower alternative schemas in another routine. We observed two generative resourcing cycles involving the assembling and shipping routines; two related to assembling and other routines; and one related to the shipping and sales routines (see Table 10). A representative example concerns how resourcing the idea of 'documenting plate assembling activities in a checklist' gave rise to a new schema in purchasing (see Appendix 3, M and Figure 7). When

Figure 7: Generative Resourcing Cycles Across Assembling and Purchasing Routine Triggered by the Alternative Schema 'Documenting Plate Assembling Activities in a Checklist'



the quality manager John was hired to set up a quality management system, one of his first ideas was to ‘document plate assembling activities in a checklist’ (alternative schema) that would allow tracing when, by whom and with what devices plates were assembled. He designed a checklist and tested it (resourcing in assembling). When the student assistants started to use the checklist regularly, they increasingly identified problems with the input materials for the plates. This knowledge became a resource that gave rise to the alternative schema in purchasing to ‘ensure the quality of raw materials’. To enact this alternative schema, actors defined quality criteria for raw materials and negotiated with suppliers to issue batch certificates. While the change in purchasing solved a number of problems with the raw materials, the negotiations with suppliers revealed that the problem of dirt particles on the plates could not be solved. This knowledge in turn gave rise to the idea in assembling to ‘check plates for dirt particles and sort out plates with any particles for internal use’. As noted above (see Figure 6), resourcing this alternative schema was only partially successful and resulted in a modified schema. In the end, resourcing the alternative schema ‘document plate assembling activities in a checklist’ resulted in changes in both the purchasing and assembling routine that actors did not initially expect.

Generative resourcing cycles across routines is a significant phenomenon, because it implies that changes in one routine may influence another beyond any already existing overlap in schemas or resources. These resourcing cycles unfold in the same way as do generative resourcing cycles within a routine, and with similarly unpredictable consequences. While the two routines in the previous example were interdependent—in the sense that the purchasing routine produced inputs for the assembling routine—such resourcing cycles may also extend across routines that are not connected through task interdependence. For example, we observed how resources generated in the sales routine gave rise to an alternative schema in the assembling routine. Talking to customers, the sales agents learned that customers typically used only one plate at a time, and stored the remaining plates for later use. This knowledge was a resource that gave rise to an alternative schema in assembling: instead of enacting the established schema of ‘insert plates in a 2x2 arrangement into one bag’, actors started to enact the alternative schema of ‘insert one plate per bag’. Resourcing this alternative schema required purchasing different bags and replacing the sealing machine.

3.4.4 Summary of Empirical Observations of Different Patterns of Resourcing

To provide a sense of the extent of resourcing in routine change, Table 10 summarizes our observations of the different patterns of resourcing. In particular, it shows that changes in schemas and resources quite frequently led to variations in performances: we observed 97

Table 10: Number of Observations of Patterns of Resourcing

		Assembling Routine		Shipping Routine	
Total number of performances		81		93	
		Variation in performance	*Modification of ostensive aspect*[(1)]	*Variation in performance*	*Modification of ostensive aspect*[(1)]
Resourcing within routines	... triggered by changes in resources	23	9	37	12
	... triggered by changes in schemas	14	11	20	13
	... in several generative resourcing cycles	1	1 *(example Figure 5)*	6	6
Failures in resourcing	... empowers established schema and resources-in-use (routine inertia)	5		10	
	... modifies envisioned schema and resources (unintended changes)	5 *(example Figure 6)*		11	
Resourcing across routines	... due to overlap in resources	7		6	
	... due to generative resourcing cycles	4* *(example 7)*		3*	

1) Note: A modification of the ostensive aspect was always preceded by variations in performances.
** Note: two of these cycles counted for each routine involved both the assembling and the shipping routine (i.e., they are counted twice)*

such variations in a total of 174 performances of both routines. Only 45 of these variations were repetitively enacted and thus modified the ostensive aspect. We also observed that about two thirds of variations in performances were triggered by changes in resources, but only about one third related to changes in schemas. At the same time, modifications of the ostensive aspect were triggered equally by changes in resources and changes in schemas: 21 modifications were triggered by changes in resources and 24 by changes in schemas. These observations reveal that resources are a major factor driving routine change over time; a factor that the practice-based literature on routines has thus far neglected.

Table 10 also shows that resourcing was not always successful: about one third of such attempts failed and either empowered established schemas and resources-in-use, or modified the envisioned schemas and resources. Resourcing across routines (20 instances observed) was less frequent than resourcing within routines (97 instances observed).

3.4.5 Towards an Evolutionary Model of Resourcing in Routine Change

Analyzing the interplay between schemas, resources and actions in routine change, we find that alternative schemas and changes in resources trigger variations in routine performance. If actors resource alternative schemas appropriately, and use certain resources consistently to enact schemas, the specific combinations of schemas and resources produce patterns of action that become recognized as the 'routine'. As a result, alternative schemas become established schemas and potential resources become resources-in-use, together constituting the ostensive aspect of the routine. We theorize this interplay between schemas, resources and action as an evolutionary mechanism of variation and selective retention (Campbell, 1965). We thereby extend the evolutionary model of routine change as developed by Feldman and Pentland (2003), who argue that the recursive relation between the ostensive and the performative aspect of routines constitutes an evolutionary mechanism of variation and selective retention. Actors generate variations in specific routine performances (the performative aspect) when they "do new things, whether in response to external changes or in response to reflexive self-monitoring" (Feldman & Pentland, 2003: 108). They then select and retain some of these variations by "interpret[ing] them as the ostensive aspect of the routine" (Feldman & Pentland, 2003: 113). Our study develops this model further by theorizing *why* and *how* actors generate variations and *how* they select variations for retention in the ostensive aspect.

Our findings suggest that resourcing is the key mechanism that underlies how actors generate variations in performances and how they select specific performances for retention in the ostensive aspect. When "actors do new things" (Feldman & Pentland, 2003: 108), they engage in resourcing, either resourcing alternative schemas or drawing on potential or creating new

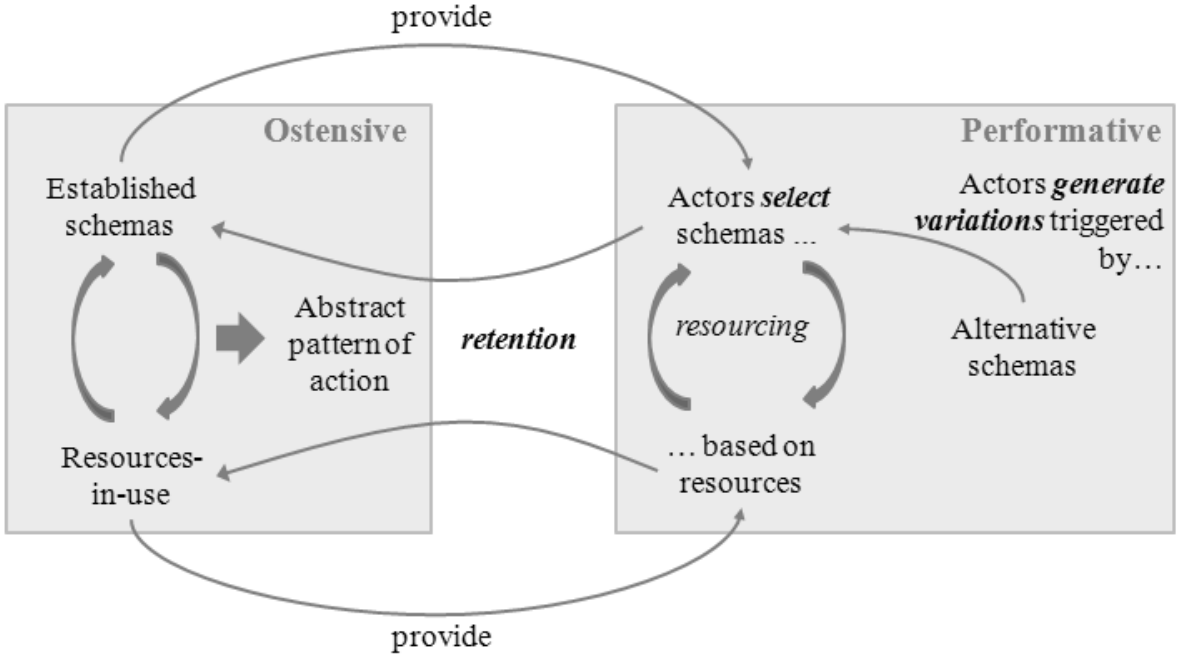
resources to enact established schemas. Based on our findings, we differentiate between two types of resourcing (see also Figure 8). The first type refers to instances when actors generate variations because schemas change, i.e., alternative schemas emerge and become salient for enacting the focal routine. In these instances, resourcing allows actors to enact alternative schemas by drawing on existing or creating new resources, thereby generating variations in specific performances. Actors then select some of these variations on the basis of resources, i.e., whether existing or created resources allow actors to continue to enact those alternative schemas. This selection mechanism is most explicit in failures in resourcing: alternative schemas are not enacted because available or created resources do not empower them (e.g., student assistants are not available to enact the alternative schema of 'low-skilled employees pack boxes for plate shipments'). Importantly, selecting schemas on the basis of resources may not only change established schemas, but also resources-in-use, because in resourcing alternative schemas actors may draw on or create new resources that eventually become resources-in-use.

The second type of resourcing refers to instances when actors generate variations because resources change, i.e., resources-in-use change or potential resources become available. In these instances, resourcing allows actors to continue to enact established schemas by drawing on potential or by creating new resources, so generating variations in specific performances. Actors then select some of these variations on the basis of schemas, i.e., whether the changes in resources are useful to enact schemas. For example, changes in resources may not be enacted because they fail to empower established schemas (e.g., without a valid driver's license, Jacob's working time cannot be used to enact the schema of 'delivering plates for sterilization by car'). Again, resourcing as the selection mechanism may change not only resources-in-use, but also established schemas when established schemas are modified in the course of drawing on potential or creating new resources. Both types of resourcing result in established schemas and resources-in-use that mutually imply each other, and are coherent because resources have been selected on the basis of schemas and vice versa. In future routine performances, the ostensive aspect guides action by providing established schemas and resources-in-use.

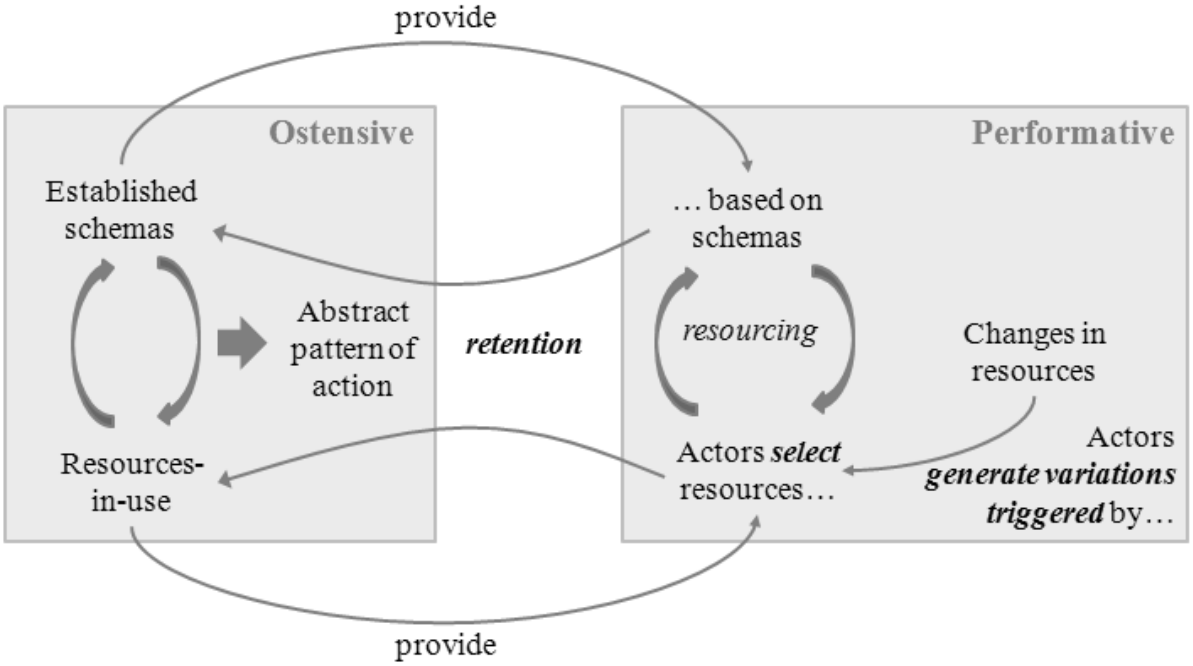
Our evolutionary model has two implications for understanding routine change. First, the two types of resourcing differ in *why* actors generate variations and in *how* they select variations for retention in the ostensive aspect. In the first type of resourcing, changes in schemas prompt actors to generate variations, and resources constitute the basis for actors to select variations, while in the second type, changes in resources prompt actors to generate

Figure 8: Evolutionary Model of Resourcing in Routine Change

First type of resourcing: actors generate variations triggered by changes in schemas; actors select variations based on resources



Second type of resourcing: actors generate variations triggered by changes in resources; actors select variations based on schemas



variations, and schemas constitute the basis for actors to select variations. As a consequence, the source of variation is independent from the mechanism of selection. This is in line with evolutionary theory that emphasizes the "blind" and "haphazard" nature of variations (Campbell, 1965: 27). Second, resourcing affects selection in routine change at two points: it determines (1) whether actors can enact variations in the first place and (2) whether they continue to enact those variations. Our observations show that some variations are already selected out *before* they are enacted (e.g., without a valid driver's license, Jacob cannot deliver plates for sterilization by car), while others are selected out because they are not *repetitively* enacted (e.g., student assistants were only infrequently available to pack boxes for plate shipments). Thus there exists a greater amount of variation in routines than is currently depicted in the literature which focuses largely on *variations in performances*.

3.5 Discussion

In this paper we have addressed the question of how resources influence routine change. While resources have been implicit in most studies on organizational routines, the extant literature has not yet theorized their role in routine dynamics. By taking a resourcing perspective, we have extended the conceptualization of the ostensive aspect to include not only shared schemas, but also resources. Drawing on the in-depth analysis of two routines, we have identified different patterns of resourcing that we theorize as two distinct evolutionary mechanisms that drive routine change. In the following, we discuss the implications of our findings for understanding (1) the ostensive aspect of routines, (2) variation and selective retention in routine change, (3) actors' temporal orientations in enacting routines, and (4) the embeddedness of routines. We conclude this section with a discussion of the limitations of our study and the avenues they suggest for future research.

3.5.1 The Ostensive Aspect of Routines

While routine scholars agree on the importance of the ostensive aspect as constituting the structural part of routines, they struggle to theorize about its content and structure (Dionysiou & Tsoukas, 2013; Pentland et al., 2012). Feldman and Pentland (2003) conceptualized the ostensive aspect as the abstract pattern of action that characterizes a routine, and Dionysiou and Tsoukas (2013: 196) incorporated "participants' shared schemata [...that] enable the coordination of joint activities". We develop this understanding further by conceptualizing the ostensive aspect as consisting of both shared schemas and resources-in-use. Our findings have

three implications for understanding the ostensive aspect. First, not only shared schemas, but also resources-in-use, are defining properties of the ostensive aspect, and thus contribute to identifying certain actions and performances as belonging to the same pattern of action. Resources-in-use also contribute to coordinating joint activities within a routine by providing expectations of what are appropriate means to enact a routine and allowing actors to identify deviations from the established pattern. Furthermore, resources-in-use may also account for the multiplicity of the ostensive aspect: even when routine participants share schemas of the appropriate ways to enact a routine, they may have different understandings of the appropriate means to employ for such enactments, i.e., resources-in-use.

Second, our findings also draw attention to the coherence among established schemas and resources-in-use that constitute the ostensive aspect. Because in resourcing actors select schemas on the basis of resources and vice versa, established schemas and resources-in-use mutually imply each other and are coherent. What is more, resourcing alternative schemas or drawing on potential resources is only successful as long as it does not conflict with other established schemas and resources-in-use (e.g., resourcing the alternative schema 'low-skilled employees pack boxes for plate shipments' failed because enacting it conflicted with the established schema of 'finalizing shipments immediately'). The associations among different established schemas and with resources-in-use crucially shape possibilities for routine change.

Third, conceptualizing resources as essential elements of the ostensive aspect also allows for further developing the positioning of artifacts in the theory of routine dynamics. While early conceptualizations of routine dynamics neglected the role of artifacts (Feldman & Pentland, 2003), later works have increasingly recognized their importance, positioning them *outside*, but in relation to, the ostensive and performative aspect (Pentland & Feldman, 2005), or at the "center of routines" *between* those two aspects (D'Adderio, 2011). Our conceptualization of resources now allows positioning artifacts as an element *within* the ostensive aspect and, in their material form, as *part of* the performative aspect.

3.5.2 Routine Change through Variation and Selective Retention

The extant literature conceptualizes agency as the primary mechanism for variation and selective retention in routines (Feldman & Pentland, 2003; Pentland & Feldman, 2005). Various sources for variation and ways for selecting variations have been proposed. Pentland and his colleagues (2012: 1502) argue that "variation can come from many sources", including problem-solving, recombination, cross-functional teams, planned changes and deliberate disruptions, and actors may select variations "for any number of reasons [or by using] formal methods for decision making" (Pentland et al., 2012: 1503). Our model extends

the literature by providing a way to classify sources of variation and distinguishing mechanisms of selective retention.

First, our study suggests that it is useful to distinguish between changes in schemas and changes in resources as sources of variation, because they impact routines differently: changes in resources more often contribute to the flexible performance of routines because resources-in-use may be temporarily unavailable or potential resources may become temporarily useful in enacting those routines. In contrast, variations that modify the ostensive aspect are equally triggered by changes in resources and changes in schemas. In addition, distinguishing between changes in schemas and changes in resources may prove helpful in explaining why disruptions have greater or lesser effects than expected (Cohen, 2007). For example, Cohen (2007) points out that major changes—like a significant turnover in employees—may have surprisingly minors effects on the established pattern of action. In this case, our theoretical model would suggest that employee turnover may not necessarily change the established pattern because employees' time or skills as resources to enact the routine continue to empower the established schemas constituting the ostensive aspect.

Second, our findings suggest that there exist two distinct mechanisms of selective retention that operate, depending on the source of variation: actors select changes in schemas on the basis of resources, while they select changes in resources on the basis of schemas. Distinguishing between these two mechanisms appears to be fruitful in identifying why routines might not change, even in the face of significant pressures for change. Our model suggests that, if resources-in-use continue to empower established schemas over alternative schemas, actors will continue to enact established patterns of action, resulting in routine inertia. Thus it may not be sufficient to envision alternative schemas and provide potential resources to counter routine inertia, but it may equally be necessary to change or remove resources-in-use. Similarly, our model provides two distinct explanations for why routines change in unexpected ways. One the one hand, failures to resource alternative schemas appropriately may give rise to modified schemas, resulting in patterns of actions that differ from those originally envisioned. On the other hand, resourcing in routines may trigger several generative resourcing cycles that give rise to alternative schemas not previously conceivable. Thus the dynamic interplay between schemas, resources and actions may result in unpredictable variations and selective retention beyond actors' intentions.

Third, our model suggests that variation and selective retention are both enabled and constrained by the availability and malleability of schemas and resources. Actors are constrained in the variations they can generate because, to some extent, existing and potential

resources determine how schemas can be resourced and thus enacted. While actors can certainly create new resources to enact schemas (Feldman, 2004), this does not mean that anything goes. Our observations show that actors tend to draw on potential resources that are readily available to enact schemas. Furthermore, actors cannot select any pattern of action over others (Feldman & Pentland, 2003), but only select those patterns in which relevant schemas are resourced appropriately and related resources are useful to enact these schemas.

3.5.3 Actors' Temporal Orientations in Enacting Routines

Our theorization of the role of resourcing in routine change also has implications for understanding actors' temporal orientations in enacting routines. Howard-Grenville (2005) shows that actors' orientations to the past, present and future significantly shape whether actors "iterate past performances, selectively apply aspects of the routine to the situation at hand, or actively alter the routine for future performances" (Howard-Grenville, 2005: 619). Thus actors' primary temporal orientations determine to what extent routines are performed flexibly and change over time.

Our study extends this understanding by showing *where* actors' temporal orientations come from and *how* they arise. In particular, our findings suggests that if resources-in-use persist over time they contribute to actors' orientations towards the past, because they empower established schemas embedded in the ostensive aspect and prevent alternative schemas arising. In contrast, if resources-in-use change or are no longer available, actors' orientations are redirected to the present (towards making do with whatever is at hand) and allow for performing the routine flexibly. If resources-in-use are permanently changed or unavailable, actors orient towards the future and project new courses of action.

At the same time, of course, actors' temporal orientations shape the availability of alternative schemas and whether they recognize specific assets and things as potential resources for enacting routines. If actors are oriented primarily to the past, they are unlikely to recognize the potential of assets as yet unrelated to a routine. Thus opportunistic resourcing—drawing opportunistically on potential resources to enact established schemas—becomes unlikely. In contrast, if actors are oriented primarily to the present, they are likely to recognize potential resources and use them to enact established schemas. Actors primary orientations toward the future give rise to alternative schemas as actors project new courses of action. Emirbayer and Mische (1998: 1004) refer to this recursive relationship between schemas, resources and actors' temporal orientation as "the *double constitution of agency and structure:* temporal-relational contexts support particular agentic orientations, which in turn constitute different structuring relationships of actors toward their environments" (emphasis

in original).

3.5.4 The Embeddedness of Routines

Numerous studies recognize that routines are embedded in their contexts, and that this shapes whether they can be performed flexibly and change over time (Cohendet & Llerena, 2003; Feldman, 2003; Howard-Grenville, 2005). Howard-Grenville (2005: 631) defines a routine's embeddedness as "the overlap between artifacts and expectations generated from routine performances and those generated from the enactment of other structures". She suggests that "a strongly embedded routine, one that overlaps with many other structures, whose overlap is significant [...] and whose artifacts and expectations are reinforced [...] by other structures, may be quite difficult to change over time" (Howard-Grenville, 2005: 632). In contrast, a weakly embedded routine is more likely to be easily changed.

Our study aligns with Howard-Grenville's (2005) definition of routine embeddedness, because what she describes as artifacts and expectations are—in our theoretical model—resources and schemas respectively. Our insights with regard to resourcing across several routines extend the understanding of the embeddedness of routines in several ways. First, our results suggest considering embeddedness not as a given characteristic of routines, but rather as a dynamic process that unfolds over time. Through resourcing, the structural aspect of routines, i.e., established schemas and resources-in-use, becomes more or less tightly linked with other organizational routines and structures. For example, actors at CellCo deliberately changed the temporal resource used by the lab and management meeting routines (Tuesday mornings) so as not to interfere with the time used as a resource in the shipping routine. In contrast, Chris (the CEO) deliberately created the order process router to link the sales routine with the shipping routine. This dynamic view of embeddedness also suggests that it is not sufficient to consider the current overlap in resources and schemas, because generative resourcing cycles may stretch across previously unrelated structures. In other words, embeddedness may generate unpredictable consequences and outcomes of routine change that go beyond what could have been expected by the existing overlap of schemas and resources.

Second, resourcing allows us to explain how such overlap is generated in the first place (Feldman, 2003; Howard-Grenville, 2005). As a routine develops, resourcing allows actors to repetitively apply alternative schemas and use potential resources that are part of other structures to enact a routine so that, over time, they become incorporated into the ostensive aspect of that routine. For example, in Rerup and Feldman's (2011) study, actors apply the espoused organizational schema to enact the hiring routine. As a result, over time, the established schemas that come to constitute the ostensive aspect of the hiring routine

overlap with the enacted organizational schema. Changes in the routine's established schemas may then have implications for the organizational schema (as in the case of Rerup and Feldman's (2011) study), and vice versa.

Third, a dynamic perspective on routine embeddedness also calls into question the implications of strong and weak embeddedness for routine change. Given that a strongly embedded routine overlaps with many other structures, and such an overlap is significant and consequential, we might hypothesize that strongly embedded routines are more prone to variations triggered by changes in resources and schemas than are weakly embedded routines, because established schemas and resources-in-use might change as other structures are enacted. Thus, in contrast to Howard-Grenville's (2005) suggestion that strongly embedded routines are less likely to change over time, we suggest that they may experience greater variations in performances and modifications of the ostensive aspect when other structures change. In addition, actors may still be able to change strongly embedded routines, even if other structures do not change, when resourcing allows them to enact alternative schemas or draw on potential resources. Our results suggest that resourcing in strongly embedded routines should be more successful when alternative schemas or potential resources complement (or at least do not conflict with) established schemas and resources-in-use.

3.5.5 Limitations and Opportunities for Future Research

Our results are based on a single ethnographic case study, which places several limitations on this paper, but at the same time opens up areas for future research. First, our study focuses on the interplay between schemas, resources and actions at CellCo, a resource-constrained and fast changing start-up. In comparison, other settings—especially larger organizations—may be characterized by resource-abundance and exhibit lower rates of routine change. Sonenshein (2013) has suggested that resourcing may play out differently in resource-constrained vs. resource-abundant environments. In particular, his study shows that managers may play different roles in encouraging resourcing in these environments. In light of this, future works could investigate the implications of resourcing for routine change in resource-abundant settings: How do actors choose between different potential resources to enact schemas? Does the greater availability of resources-in-use and potential resources stabilize or destabilize routines?

Second, CellCo employees largely agreed on how to carry out routines, and were able to observe and take into account the entire range of actions involved, not just some parts. While ostensive aspects in this setting certainly differed slightly, the multiplicity was limited. However, as recent studies have emphasized (Pentland & Feldman, 2008; Rerup & Feldman,

2011), the multiplicity of the ostensive aspect may be significant, especially in larger and more established organizations (Zbaracki & Bergen, 2010). Future research could examine the implications of our analysis for the multiplicity of the ostensive aspect: Is there greater multiplicity in established schemas or in resources-in-use? In what ways? What is the impact on resourcing and the implications for routine change? In addition, our study suggests that the way in which multiple established schemas are connected in the ostensive aspect may shape possibilities for routine change. Future work could thus consider how established schemas are connected: Do some established schemas have a greater impact on routine change than others? Are some established schemas more difficult to change than others?

Third, this paper focuses on the role of resources in routine change, without distinguishing between different types of resources. However, as a distinct stream of research has developed around the role of artifacts in routines, it may be useful to focus more closely on how artifacts as resources shape the development of routines over time. In particular, a key challenge of this stream of work is that studies to date have remained undecided about the extent to which artifacts "matter a great deal, or not at all" (Parmigiani & Howard-Grenville, 2011: 439). A resourcing perspective may prove fruitful in uncovering how, and to what extent, artifacts and their features become resources-in-use, and how, in turn, they empower established or alternative schemas, so shaping the possibilities for routine change over time. Future studies could also compare how artifacts are used as resources in contrast to other assets and things, such as relations and their qualities or other immaterial resources. Comparing artifacts to other types of resources may allow scholars to delineate more clearly the particular characteristics of artifacts, and define in more detail their role in shaping routine dynamics.

3.6 Conclusion

While various streams of research have recognized the central role of resources in organizations, resources remain curiously absent from theorizing about routine dynamics. This paper starts to address this gap. Drawing on resourcing theory, we locate resources as a constitutive element of the structural part of routines: the ostensive aspect not only consists of actors' shared schemas, but also of resources that are used repeatedly to enact the routine. Resourcing is the key mechanism that allows actors to link schemas and resources in a novel way, thereby introducing variations in performances and selecting some of them for retention in the ostensive aspect. We extend the model of evolutionary routine change by theorizing why and how actors generate variations and selectively retain some of them for future

performances. In particular, we specify two types of resourcing that constitute two distinct mechanisms of variation and selective retention. By highlighting the role of resourcing in routine change, we advance a novel perspective on routine dynamics and contribute to the literature in four important ways. First, we further develop the conceptualization of the ostensive aspect by identifying resources-in-use as one of its constitutive elements. Second, we extend the evolutionary model of routine change by providing a way to classify sources of variation, distinguish mechanisms of selective retention and explain routine inertia and unexpected routine change. Third, our study reveals how actors' temporal orientations in enacting, maintaining and changing routines are both shaped by and shape the availability of schemas and the recognition of assets and things as potential resources to enact routines. Fourth, our results suggest that embeddedness is not a given characteristic of routines, but a dynamic process that unfolds over time, sometimes in unexpected ways.

Funding

This work was supported by the Swiss National Science Foundation (Grant No. 100014_135403).

References

Anand, G., Gray, J., & Siemsen, E. 2012. Decay, Shock, and Renewal: Operational Routines and Process Entropy in the Pharmaceutical Industry. ***Organization Science***, 23(6): 1700–1716.

Baker, T., & Nelson, R. E. 2005. Creating Something from Nothing: Resource Construction through Entrepreneurial Bricolage. ***Administrative Science Quarterly***, 50(3): 329–366.

Bapuji, H., Hora, M., & Saeed, A. M. 2012. Intentions, Intermediaries, and Interaction: Examining the Emergence of Routines. ***Journal of Management Studies***, 49(8): 1586–1607.

Barley, S. R. 1986. Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments. ***Administrative Science Quarterly***, 31(1): 78–108.

Barney, J. 1991. Firm Resources and Sustained Competitive Advantage. ***Journal of Management***, 17(1): 99.

Birnholtz, J. P., Cohen, M. D., & Hoch, S. V. 2007. Organizational Character: On the Regeneration of Camp Poplar Grove. ***Organization Science***, 18(2): 315–332.

Bourdieu, P. 1990. ***The Logic of Practice***. Stanford: Stanford University Press.

Cacciatori, E. 2012. Resolving Conflict in Problem-Solving: Systems of Artefacts in the Development of New Routines. ***Journal of Management Studies***, 49(8): 1559–1585.

Campbell, D. T. 1965. Variation and Selective Retention in Socio-Cultural Evolution. In H. R. Barringer, G. I. Blanksten & R. W. Mack (Eds.), ***Social change in developing areas. A reinterpretation of evolutionary theory***: 19–49. Cambridge Mass: Schenkman Pub. Co.

Cohen, M. D. 2007. Reading Dewey: Reflections on the Study of Routine. ***Organization Studies***, 28(5): 773–786.

Cohendet, P., & Llerena, P. 2003. Routines and incentives: the role of communities in the firm. ***Industrial and Corporate Change***, 12(2): 271–297.

Cyert, R. M., & March, J. G. 1963. ***A behavioral theory of the firm***. New Jersey, USA: Prentice-Hall Inc.

D'Adderio, L. 2003. Configuring software, reconfiguring memories: the influence of integrated systems on the reproduction of knowledge and routines. ***Industrial and Corporate Change***, 12(2): 321–350.

D'Adderio, L. 2011. Artifacts at the centre of routines: performing the material turn in routines theory. ***Journal of Institutional Economics***, 7(02): 197–230.

Dionysiou, D., & Tsoukas, H. 2013. Understanding the (Re)creation of Routines from Within: A Symbolic Interactionist Perspective. ***Academy of Management Review***, 38(2): 181–205.

Dutton, J. E., Worline, M. C., Frost, P. J., & Lilius, J. 2006. Explaining Compassion Organizing. ***Administrative Science Quarterly***, 51(1): 59–96.

Emerson, R. 1995. ***Writing Ethnographic Fieldnotes***. Chicago: The University of Chicago Press.

Emirbayer, M., & Mische, A. 1998. What Is Agency? ***American Journal of Sociology***, 103(4): 962–1023.

Feldman, M. S. 2000. Organizational Routines as a Source of Continuous Change. ***Organization Science***, 11(6): 611–629.

Feldman, M. S. 2003. A performative perspective on stability and change in organizational routines. ***Industrial and Corporate Change***, 12(4): 727–752.

Feldman, M. S. 2004. Resources in Emerging Structures and Processes of Change. ***Organization Science***, 15(3): 295–309.

Feldman, M. S., & Orlikowski, W. J. 2011. Practicing Theory and Theorizing Practice. ***Organization Science***, 22(5): 1240–1253.

Feldman, M. S., & Pentland, B. T. 2003. Reconceptualizing Organizational Routines as a Source of Flexibility and Change. ***Administrative Science Quarterly***, 48(1): 94–118.
Feldman, M. S., & Quick, K. S. 2009. Generating Resources and Energizing Frameworks Through Inclusive Public Management. ***International Public Management Journal***, 12(2): 137–171.
Feldman, M. S., & Worline, M. C. 2011. Resources, Resourcing, and Ampliative Cycles in Organizations. In G. M. Spreitzer & K. S. Cameron (Eds.), ***The Oxford Handbook of Positive Organizational Scholarship***: Oxford University Press.
Giddens, A. 1984. ***The constitution of society***: ***Outline of the theory of structuration***. Berkeley: University of California Press.
Glynn, M. A., & Wrobel, K. 2007. My family, my firm: How family relationships function as endogenous organizational resources. In J. E. Dutton & B. R. Ragins (Eds.), ***Exploring positive relationships at work. Building a theoretical and research foundation***. Mahwah, NJ: Lawrence Erlbaum Associates.
Hales, M., & Tidd, J. 2009. The practice of routines and representations in design and development. ***Industrial and Corporate Change***, 18(4): 551–574.
Howard-Grenville, J., Golden-Biddle, K., Irwin, J., & Mao, J. 2011. Liminality as Cultural Process for Cultural Change. ***Organization Science***, 22(2): 522–539.
Howard-Grenville, J. A. 2005. The Persistence of Flexible Organizational Routines: The Role of Agency and Organizational Context. ***Organization Science***, 16(6): 618–636.
Howard-Grenville, J. A. 2007. Developing Issue-Selling Effectiveness over Time: Issue Selling as Resourcing. ***Organization Science***, 18(4): 560–577.
Jaquith, A. C. 2009. ***The creation and use of instructional resources: The puzzle of professional development.*** Ph.D dissertation. Stanford University, School of Education.
Labatut, J., Aggeri, F., & Girard, N. 2011. Discipline and Change: How Technologies and Organizational Routines Interact in New Practice Creation. ***Organization Studies***, 33(1): 39–69.
Lazaric, N., & Denis, B. 2005. Routinization and memorization of tasks in a workshop: the case of the introduction of ISO norms. ***Industrial and Corporate Change***, 14(5): 873–896.
March, J. G., & Simon, H. A. 1958. ***Organizations*** (23rd ed.). New York NY: Wiley.
Obstfeld, D. 2012. Creative Projects: A Less Routine Approach Toward Getting New Things Done. ***Organization Science***, 23(6): 1571–1592.
Ortmann, G. 1994. "Lean" - Zur rekursiven Stabiliserung von Kooperation. In G. Schreyögg & P. Conrad (Eds.), ***Managementforschung 4***. Berlin.
Parmigiani, A., & Howard-Grenville, J. 2011. Routines Revisited: Exploring the Capabilities and Practice Perspectives. ***Academy of Management Annals***, 5(1): 413–453.
Pentland, B. T. 2011. The foundation is solid, if you know where to look: comment on Felin and Foss. ***Journal of Institutional Economics***, 7(02): 279–293.
Pentland, B. T., & Feldman, M. S. 2005. Organizational routines as a unit of analysis. ***Industrial and Corporate Change***, 14(5): 793–815.
Pentland, B. T., & Feldman, M. S. 2007. Narrative Networks: Patterns of Technology and Organization. ***Organization Science***, 18(5): 781–795.
Pentland, B. T., & Feldman, M. S. 2008. Designing routines: On the folly of designing artifacts, while hoping for patterns of action. ***Information and Organization***, 18(4): 235–250.
Pentland, B. T., Feldman, M. S., Becker, M. C., & Liu, P. 2012. Dynamics of Organizational Routines: A Generative Model. ***Journal of Management Studies***, 49(8): 1484–1508.
Pfeffer, J., & Salancik, G. R. 1978. ***The external control of organizations***: ***A resource dependence perspective***. New York: Harper and Row.
Quinn, R. W., & Worline, M. C. 2008. Enabling Courageous Collective Action: Conversations from United Airlines Flight 93. ***Organization Science***, 19(4): 497–516.

Reckwitz, A. 2002. Toward a Theory of Social Practices: A Development in Culturalist Theorizing. ***European Journal of Social Theory***, 5(2): 243–263.

Rerup, C., & Feldman, M. S. 2011. Routines as a source of change in organizational schemata: the role of trial-and-error learning. ***Academy of Management Journal***, 54(3): 577–610.

Reynaud, B. 2005. The void at the heart of rules: routines in the context of rule-following. The case of the Paris Metro Workshop. ***Industrial and Corporate Change***, 14(5): 847–871.

Sewell, W. H. 1992. A Theory of Structure: Duality, Agency, and Transformation. ***American Journal of Sociology***, 98(1): 1–29.

Sonenshein, S. 2013. How Organizations Foster the Creative Use of Resources. ***Academy of Management Journal***.

Spradley, J. P. 1979. ***The ethnographic interview***. New York: Holt, Rinehart and Winston.

Spreitzer, G., Sutcliffe, K., Dutton, J., Sonenshein, S., & Grant, A. M. 2005. A Socially Embedded Model of Thriving at Work. ***Organization Science***, 16(5): 537–549.

Teece, D. J., Pisano, G., & Shuen, A. 1997. Dynamic capabilities and strategic management. ***Strategic Management Journal***, 18(7): 509–533.

Thompson, J. D. 1967. ***Organizations in action***: ***Social science bases of administrative theory***. New York: McGraw-Hill.

Turner, S. F., & Fern, M. J. 2012. Examining the Stability and Variability of Routine Performances: The Effects of Experience and Context Change. ***Journal of Management Studies***, 49(8): 1407–1434.

Turner, S. F., & Rindova, V. 2012. A Balancing Act: How Organizations Pursue Consistency in Routine Functioning in the Face of Ongoing Change. ***Organization Science***, 23(1): 24–46.

Zbaracki, M. J., & Bergen, M. 2010. When Truces Collapse: A Longitudinal Study of Price-Adjustment Routines. ***Organization Science***, 21(5): 955–972.

Appendix 1: Supporting Evidence for 'Resourcing Within Routines'

Pattern of resourcing	# of observations	Illustrative Example	Analysis
Variation in performances triggered by changes in resources	Assembling routine: 23	***A: Access card for car sharing provider missing*** To deliver plates for sterilization, participants of the assembling routine typically rented a car from GoCar—the local car sharing provider (see Table 8, step 9). They reserved the car in advance for a specific day and time and used an access card to open the vehicle. One day, shortly before Christmas, with heavy snow outside, Alex, a temporary staff member, needed to deliver 1,050 plates for sterilization, but he could find the GoCar access card. After much asking around, Alex discovered the company founder Michael had accidentally taken the card with him after using the car the day before. But, unfortunately, Michael was in a day-long meeting with CellCo's board of investors and could not be reached by phone. Alex considered several courses of action with John, the quality manager, and they eventually decided to rent a car from RentCar (a nearby car rental provider), even though it was more expensive than GoCar. Michael returned the GoCar access card that evening, and Alex used it again to deliver plates for sterilization during the next routine performance.	• Established schema: 'delivering plates for sterilization by car' • Resource-in-use: access card of car sharing provider • Change in resources: access card is unavailable • Variation in performance: rent a car from the local car rental provider (resourcing the established schema) • Outcome: temporary variation in performative aspect does not modify the ostensive aspect
	Shipping routine: 37	***B: Sales agent as 'shipping provider'*** In July, the CEO Chris organized a sales meeting, inviting the two sales agents—Jim and Mark, who lived abroad—to CellCo's headquarters. At the same time, John, the quality manager, had several orders of plates from Mark's home country. During a coffee break, John asked Mark whether he would mind taking the plate ordered products with him and shipping them from his home. This solution would be substantially cheaper than shipping from CellCo's headquarters as it would save custom duties and Mark could use his local mail provider. Mark agreed and took the plate shipments that John had prepared for him. This variation in performance was only repeated twice during our study, when Mark again visited CellCo's headquarters for sales meetings.	• Established schema: 'ship plates via shipping provider' • Change in resources: Mark's travelling becomes a potential resource (but only temporarily) • Variation in performance: John asks Mark to ship shipments from his home (resourcing the established schema) • Outcome: temporary variation in performance does not modify the ostensive aspect
Variation in performances triggered by changes in schema	Assembling routine: 14	***C: Low-skilled employees assemble (see also Figure 2)*** At the start of our observations, Taylor (head of R&D) typically arranged to assemble plates when he noticed that CellCo was running out of them, usually asking available lab employees to do the task (see Table 8, step 1). As a result, assembling frequently interrupted regular lab work. To avoid diverting high-skilled and expensive lab employees away from more important work, Chris, the CEO, suggested that only low-skilled employees should assemble plates—in particular, he proposed asking CellCo's two student assistants to assemble plates, and offered to pay them separately on an hourly basis for this work. But the student assistants did not start to assemble plates immediately—instead,	• Established schema: 'available lab employees assemble plates when the stock of plates runs low' • Change in schema: Chris suggests alternative schema of 'low-skilled employees assemble plates' • Resourcing the alternative schema: pay student assistants separately for assembling plates; design a checklist for guiding and documenting

		John, the quality manager, first designed a checklist that described in detail how plates should be assembled. Once the lab employees (who had previously assembled plates) had tested the checklist, they asked the student assistants to assemble for the first time under their supervision. Seeing they were competent to assemble plates by themselves, the lab employees no longer got involved in the task, and the student assistants continued to assemble plates by themselves.	assembling activities • Variation in performances: student assistants assemble for the first time and lab employees supervise; student assistants continue to assemble • Outcome: repeated variations in performative aspect modify the ostensive aspect
	Shipping routine: 20	***D: Problems with shipping provider ShipCo*** CellCo experienced repeated problems in shipping biological products via ShipCo, the company the management team had initially selected as the sole shipping provider. One day, another cell-tissue shipment to a European country failed, and the cell-tissues where dead when they arrived at the customer. At its next meeting, the management team discussed how to avoid these problems in the future. John suggested testing several other shipping providers, such as TransCo and DeliverCo. After the meeting, he contacted these providers and discussed with them how CellCo could avoid problems with biological shipments and the costs involved. DeliverCo turned out to be too expensive, but TransCo appeared to be particularly suitable for shipping to Europe. Given the problems CellCo had experienced in using ShipCo for European shipments, Chris and John decided to use TransCo for shipments to Europe and ShipCo for shipments to North America, a pattern John adhered to during subsequent performances	• Established schema: 'use ShipCo as the sole shipping provider' • Change in schema: John suggests alternative schema of 'use several shipping providers' • Resourcing the alternative schema: contact two alternative shipping providers and assessing their suitability • Variation in performances: John starts to regularly use TransCo for shipments to Europe but retains ShipCo for shipments to North America • Outcome: repeated variations in performative aspect modify the ostensive aspect
Resourcing in several generative resourcing cycles	Assembling routine: 1	***E: Low-skilled employees assemble (continued from C; see also Figure 2)*** Once John, the quality manager, realized that having student assistants assemble the plates worked well, he proposed that they could assemble them in evenings and over the weekend. He knew that the student assistant often struggled to fit this work into their regular working hours at CellCo as they also had university lectures to attend, so he anticipated that they would be quite happy to work outside normal working hours. At the same time, this arrangement would save the student assistants occupying the lab workbenches during regular working hours. When John asked them, the two student assistants immediately agreed to this arrangement. John organized for them to have keys and permission to enter CellCo's offices outside normal working hours, and they started this new working pattern. When John and Taylor, the head of R&D, reviewed their work of the student assistants, they raised the idea of a 'rolling production scheme: the two student assistants should assemble plates continuously, rather than only when CellCo's inventory of plates was nearly depleted. That way, they could arrange their working times flexibly, and CellCo would benefit from a continuous supply of plates. Thus John arranged with the two student assistants that they would continuously assemble 500 plates per month. This arrangement solved another problem that CellCo had previously encountered: CellCo didn't run out of assembled plates again.	• New resource gives rise to an alternative schema: student assistants' working time gives rise to the idea to 'assemble plates on evenings and weekends' • Resourcing: provide keys and permissions to enter CellCo's offices on evenings and weekends • Variation in performances: student assistants assemble plates on evenings and weekends • New resource gives rise to an alternative schema: evenings and weekends as working hours for assembling give rise to the idea to 'assemble on a rolling production scheme' • Resourcing: arrange with student assistants to assemble 500 plates per month • Variation in performances: student assistants regularly assemble 500 plates per month • Outcome: repeated variations in performative

			aspects modify the ostensive aspect
	Shipping routine: 6	***F: Problems with shipping provider ShipCo (continued from D)*** When John, the quality manager, discussed with TransCo how their service could be used for biological shipments, TransCo suggested testing their service by sending two 'demo' shipments to destinations abroad. Chris, the CEO, liked the idea and suggested that CellCo could carry out a demo shipment for every new destination to which they would be shipping to avoid the costs incurred by failed biological shipments. So John started to carry out some demo shipments to destinations where CellCo already had customers. To assess the success of the demo shipments, John used a data logger that tracked the temperature in the shipment during the journey. When the temperature stayed within the limits the scientists had defined for biological products, John was confident that they could ship biological products to the respective destination. After testing several demo shipments, John proposed that CellCo should equip every biological shipment with a data logger, so that customers could immediately assess the viability of products that they received. But when sending the first biological shipments with data loggers, one customer was irritated by a signal on the data logger that he did not know how to interpret. The data loggers also only showed the customer when the temperature in the shipment had risen above a specific limit, but not when it went below a safe limit. So John looked for more sophisticated data loggers that would enable customers to assess the viability of the shipment immediately. He found a type of disposable data logger that gave customers conclusive indications about the viability of their shipments, and could be discarded after use. John and the scientists then defined and tested appropriate temperature limits for the more sophisticated, disposable data loggers. They worked well, so John continued to use them for all future biological shipments.	• New resource gives rise to alternative schema: demo shipments to test TransCo give rise to the idea to 'carry out demo shipments for every new destination' • Variation in performance: use a data logger to assess the success of demo shipments to new destinations (resourcing alternative schema) • New resource gives rise to alternative schema: using data loggers give rise to the idea to 'equip all biological shipments with data loggers' • Variation in performance: ask customers to assess viability of shipment with data logger (resourcing alternative schema); resourcing only partially successful: customers irritated by some data logger readings • Further resourcing: find more sophisticated data logger and define appropriate temperature limits • Variation in performances: John regularly uses more sophisticated data loggers and refined temperature limits for biological shipments (resourcing alternative schema) • Outcome: repeated variations in performances modify the ostensive aspect

Appendix 2: Supporting Evidence for 'Failures in Resourcing'

Patterns of resourcing	# of observations	Description	Analysis
Failures in resourcing empower established schemas and resources-in-use (routine inertia)	Assembling routine: 5	**G: Jacob can't deliver plates for sterilization** When Taylor (head of R&D) observed that using student assistants' working time to assemble plates worked well (see Appendix 1, C and E), he thought about asking one of them, Jacob, to deliver the plates for sterilization to SteriCo (Table 8, step 9). Previously, Taylor had delivered the plates by car himself because he had initiated the contact with SteriCo. As with the plate assembling, Taylor intended to pay Jacob for delivering plates separately. But when Taylor approached Jacob with his idea, Jacob said he did not really like driving, and anyway that he did not have a valid driver's license. Surprised, Taylor could not think of another viable option than to deliver the plates himself—he did not want to ask Lily (the other student assistant) because he did not want her to carry the heavy boxes of plates. So Taylor continued to deliver plates for sterilization himself.	• Established schema: 'delivering plates for sterilization by car' • Resource-in-use: Taylor's working time • Change in resources: Jacob's working time becomes potential resource for delivering plates • Variation in performance: Taylor asks Jacob to deliver plates for sterilization (resourcing), but Jacob declines (resourcing fails) • Outcome: Taylor continues to deliver the plates himself (return to enact resource-in-use; routine inertia)
	Shipping routine: 10	**H: Student assistants not available for packing boxes for plate shipments** When Susan, a lab employee, was designated as the export manager responsible for all plate and biological shipments (see also example J), she initially prepared all boxes for shipment herself (Table 9, step 3 and 2 respectively). However, she did not like packing plates into boxes because she considered it low-skilled work. Instead, she proposed that low-skilled employees, i.e., the student assistants, should pack the boxes and she should only finalize the shipments. Chris, the CEO, supported her since he had already originally suggested that once everything was set up properly Susan could have another person supporting her. Susan showed Jacob, one of the student assistants, how to put together a box of plates for shipment, and planned to let him know every time a shipment order came in. But over the following weeks Jacob was frequently unavailable when a shipment needed to be finalized, as he only worked part-time. Chris also often urged Susan to finalize the shipment quickly because he wanted to demonstrate CellCo's ability to turn round orders quickly to customers. So Susan continued to pack the boxes herself and was only infrequently able to delegate this task to Jacob.	• Established schema: 'export manager prepares boxes for plate shipment' • Resource-in-use: Susan's working time • Change in schema: Susan raises idea of 'low-skilled employees pack boxes for plate shipments' • Resourcing: Susan shows Jacob how to pack boxes • Variation in performances: Susan wants Jacob to prepare specific shipments, but he is frequently unavailable when shipments need to be finalized (resourcing fails) • Outcome: Susan continues to prepare boxes for plate shipments herself (return to established pattern)
Failures in resourcing modify envisioned schemas and resources (unintended changes)	Assembling routine: 5	**I: Checking plates for particles (see also Figure 3)** Before starting to assemble the plates, routine participants typically performed two simple quality checks on the input material and sorted out any that did not meet the quality criteria (Table 8, step 3). However, actors increasingly noted that there were small dirt particles in the final product (i.e., the assembled plates) that interfered with the growth of the cell tissues (see also example M). When Taylor, the head of R&D,	• Established schema: 'perform quality check on input material' • Change in schema: Taylor suggests alternative schema 'check plates for dirt particles and sort out plates with any particles for internal use'

		could not solve the problem by improving the quality of the input material, he asked the student assistants who assembled the plates to check them systematically for dirt particles and sort out all plates with any kind of particle for internal use (plates with dirt particles could still be used for internal R&D projects). Taylor gave the student assistants a magnifying glass to inspect the plates and helped them to identify the dirt particles. After checking twenty plates, the student assistants noted that they needed to sort out almost all of them if they applied the criterion 'any particle' strictly. Taylor discussed the problem with John, the quality manager, and the two of them decided to sort out only those plates that had unacceptable amounts and sizes of particles. Initially, the student assistants were uncertain what was still acceptable and what was not. Discussing different options with Taylor, they agreed to sort out plates that had particles in more than four of the 96 wells of a plate, or when particles were larger than the size of a cell tissue. The student assistants continued to assemble and sort out plates that did not meet the quality criteria. This change in the assembling routine was significant: instead of only producing high-quality plates, CellCo now accepted producing plates with certain amounts or sizes of dirt particles.	• Variation in performance: student assistants use magnifying glass to identify particles (resourcing alternative schema); almost all plates have some kind of particle (resourcing partially fails) • Change in schema: failure in resourcing gives rise to modified schema 'check plates for dirt particles and sort out unacceptable plates for internal use' • Further resourcing: Taylor and student assistants define criteria for what is acceptable and what is unacceptable • Variation in performances: Student assistants sort out unacceptable plates regularly • Outcome: repeated variations modify the ostensive aspect, but differently than envisioned: CellCo can't produce the high-quality plates it initially envisioned (unintended changes)
	Shipping routine: 11	**J: The export manager is responsible for shipping** After CellCo experienced several problems with shipments (see also example D), the CEO Chris proposed that instead of everybody shipping products whenever needed, CellCo should have a single dedicated export manager who would prepare and finalize every shipment. After some debate, the management team designated Susan as the export manager and John as her deputy. Chris proposed that he would show Susan how to order the shipment from the ShipCo (the provider) online and also arrange for her to have an external training session on exporting. During the next few weeks, Susan started to prepare the boxes for shipment, but Chris did not find the time to show her properly how to order ShipCo online or how to prepare the shipping documents. One day, several boxes were waiting to be shipped, and Chris wanted to show Susan how to do it—but she was busy with an important experiment in the lab. So Chris decided to show the whole process to John. The next time when Susan had prepared another box for shipment, John simply ordered the shipping provider and prepared the shipping documents. This task distribution became the regular division of labor in the following weeks. Both Susan and John became equally recognized as being responsible for shipments: Susan for preparing boxes for shipment and John for ordering ShipCo and preparing the shipping documents.	• Established schema: 'everybody ships products when they need to' • Change in schema: Chris suggests alternative schema: 'a dedicated export manager prepares and finalizes every shipment' • Resourcing the alternative schema: Susan is designated as export manager, John as her deputy • Variation in performances: Susan prepares boxes for shipment, but Chris shows John how to order ShipCo online and prepare the shipping documents (resourcing partially fails); Susan continues to prepare boxes for shipment and John continues to order the shipment supplier online and prepare the shipping documents • Outcome: repeated variations modify the ostensive aspect, but not as originally envisioned (unintended changes)

Appendix 3: Supporting Evidence for 'Resourcing across Routines'

Patterns of resourcing	# of observations	Description	Analysis
Resourcing across routines due to overlap in resources	Assembling routine: 7	**K: Change in CellCo's warehouse location** The last step of the assembling routine comprised picking up the plates from the sterilization provider, delivering them to the warehouse at CellCo's headquarters and storing them there (Table 8, step 10). The warehousing routine then included keeping track of stock (plates and other inventory) and providing these materials to other routines. In July, Susan, the warehouse manager, ran out of space for stocking incoming raw material and finished products, and there was no other space at CellCo's offices that she could use for storage. So John, the quality manager, suggested increasing the space for warehousing by renting a small room externally, and immediately started looking for a suitable location. After checking several options, Chris (the CEO) and John decided to locate the new warehouse at the apartment building where John lived and where he could rent an additional room in the basement. So John started to transfer some of the incoming raw material and finished products to this new location. He also told Taylor and other employees who picked up plates from the sterilization provider to deliver them directly to the new warehouse location, instead of to CellCo's headquarters. The next time Taylor picked up the finished plates from sterilization, he delivered them directly to the new warehouse location, and continued to do so in subsequent performances of this routine.	• Established schema (assembling): 'delivering plates from sterilization to the warehouse' • Overlap in resource-in-use (assembling & warehousing): warehouse at CellCo's headquarters • Change in resource-in-use: a second location is introduced as storage space in the warehousing routine; after sterilization, plates are stored at the new location • Variation in performances (assembling): Taylor and others regularly deliver plates to new warehouse (resourcing) and then return to CellCo's headquarters • Outcome: variations in performative aspect modify the ostensive aspect of assembling routine (resource-in-use changed)
	Shipping routine: 6	**L: Preparing shipments on Tuesday mornings** As the shipping routine developed over time, routine participants increasingly used Tuesday mornings to prepare shipments. Shipping on Tuesday morning was particularly important for cell tissue shipments, because the tissues needed to be checked and harvested one day before they could be shipped (i.e., Monday) and to arrive at the customer's premises before the weekend. But, at the same time, lab meetings were also scheduled for 8:30am on Tuesday mornings, and management meetings for 11:00am. As the employees who prepared shipments also participated in the lab and management meetings, preparing shipments on Tuesday mornings often led to conflicts. Initially, participants tried to reschedule the meetings earlier or later on Tuesday, or to shorten them to allow participants in the shipping routine to prepare shipments. However, scheduling conflicts became so frequent that CellCo's management team searched for a different solution. They decided to move lab meetings to Wednesday morning and management meetings to Monday morning, leaving Tuesday mornings free for preparing shipments.	• Established schema: 'hold weekly lab and management meetings' • Resources-in-use: Tuesday mornings used as a temporal resource for the lab and management meeting routines • Changes in resources: Employees increasingly use Tuesday mornings to prepare shipments; the increasing overlap in resources-in-use frequently interrupts the two meeting routines • Resourcing: management team decides to use Wednesday mornings for lab meetings and Monday mornings for management meetings • Variation in performances: lab and management meetings are carried out as envisioned • Outcome: variations in performative aspect

			modify the ostensive aspect of the two meeting routines; the ostensive aspect of shipping does not change (overlap in resources-in-use is resolved)
Resourcing across routines due to generative resourcing cycles	Assembling routine: 4	**M: Documenting plate assembling activities in a checklist (see also Figure 4)** When John, the quality manager, was hired to introduce quality management at CellCo, one of his first ideas was to develop checklists for certain procedures that were already well established and could be easily standardized. The checklists should not only ensure consistency across the different performances, but also allow for traceability, i.e., when there was a problem with a specific production batch, the quality manager could trace who had carried out which activities, when and with what devices. With the help of Susan (who was involved in assembling plates) John started to develop a checklist for assembling. When routine participants started using the checklist, they noticed increasing problems with the quality of the input material for plate assembling. So John suggested introducing quality criteria for purchasing and checking incoming raw material for these criteria. Next, John and Taylor (the head of R&D) negotiated these quality criteria with CellCo's suppliers who agreed to issue batch certificates for every batch of products they sold to CellCo. While improving the purchasing routine solved some of the problems of the input material, one remained: there continued to be dirt particles on the plates. Taylor therefore asked the student assistants who were assembling the plates to check the assembled plates for dirt particles systematically and sort out those plates on which they observed any dirt particles (see Appendix 2, I; failure in resourcing). The student assistants started to use a magnifying glass to inspect the plates, but soon realized that, under close scrutiny, they found dirt particles in almost all of them—sorting them all out would mean that none remained to be sent to the customer. So Taylor and John decided that the student assistants should sort out only those plates on which there were unacceptable amounts and/or sizes of particles. Taylor and John discussed different options for sorting out plates with the student assistants, and agreed to sort out those that had particles in more than four of the 96 wells of a plate, or when particles were larger than the size of a cell tissue. The student assistants continued to assemble and sort out plates that did not meet these quality criteria.	• Established schema: 'assemble input material into plates' • Change in schema: John suggest alternative schema: 'document plate assembling activities in a checklist • Variation in performance (assembling): participants use the checklist for assembling (resourcing alternative schema); they identify problems with input material • New resource gives rise to an alternative schema in purchasing: knowledge about problems gives rise to alternative schema of 'ensure the quality of raw material' • Variation in performance (purchasing): negotiating quality criteria and a batch certificate with suppliers (resourcing the alternative schema); applying quality criteria in purchasing reveals that the problem of dirt particles in the plates could not be solved • New resource gives rise to alternative schema in assembling: knowledge about the problem gives rise to alternative schema of 'check plates for dirt particles and sort out plates with any particles for internal use' • Variation in performance (assembling): student assistants use magnifying glass to identify particles (resourcing alternative schema); criteria for what is acceptable/ unacceptable are defined • Outcome: variations in performances modify ostensive aspect of both the purchasing and the assembling routine
	Shipping routine: 3	**N: Shipping with a lot number and a certificate of quality** When Chris, the CEO, hired John as quality manager, one of his first requests to John	• Alternative schema (shipping): 'ship products in a professional manner'

		was to improve the shipping of products so that CellCo's quality management efforts would be immediately apparent to its customers—in other words, Chris wanted the shipments to look more professional. So Chris and John decided to introduce lot numbers and quality certificates for every plate shipment. The lot number system implied that the assembling routine needed to be changed so that every plate would be labeled with the lot number of its respective production batch. Chris helped to set up the lot number system—it was a rather complicated eight digit number—and showed the assembling crew how to label the plates with that number. The assembling crew then started to label the plates and record the respective lot numbers on the checklist (see example M). The filled-in checklists then allowed John to design and issue a certificate of quality for shipping plates because the checklists enabled him to trace back every production batch to where, when, how and by whom it had been assembled. When issuing the quality certificate , John realized that to use the word 'sterile' in the certificate, the sterilization process applied during plate assembling needed to be validated. Validating the sterilization process meant that it needed to be standardized, and that John had to be able to show that the process produced the same sterilization results consistently across three different runs (i.e., three different batches). To validate the sterilization process, John standardized the boxes used for sterilization (i.e., he bought three aluminum boxes and designated them 'for sterilization only') and tested three consecutive runs of the sterilization process. He told the assembling crew only to use these standardized boxes for sterilization, rather than the random boxes they had used before.	• Resourcing the alternative schema (shipping): design lot number system & certificate of quality • New resource gives rise to alternative schema (assembling): lot number system gives rise to the alternative schema of 'label plates with lot number' • Variation in performance (assembling): label plates with lot number and document it in the checklist (resourcing the alternative schema) • New resource empowers alternative schema (shipping): filled-in checklists empower alternative schema of 'ship products in a professional manner' • Variation in performance (shipping): John issues certificate of quality describing products as 'sterile' (resourcing the alternative schema) • New resource gives rise to alternative schema (assembling): concept of sterile gives rise to alternative schema of 'sterilize plates according to validated process' • Variation in performance (assembling): standardize boxes for sterilization and validate process (resourcing the alternative schema) • Outcome: variations in performances modify the ostensive aspect of both the shipping and the assembling routine

4 A Practice-Based Framework of Organizational Meetings: A Review and a New Conceptualization

Katharina Dittrich, Stéphane Guérard, David Seidl

Abstract

During the last three decades, scholars in communication studies, political science, sociology, cultural anthropology and management science have been studying the characteristics and dynamics of meetings from different perspectives. This has resulted in a large but highly fragmented body of literature about meetings and their role in organizations. In this paper we synthesize the state of research on meetings and organize the literature around the main theoretical perspectives that have been applied to study meetings. Our analysis reveals that contemporary works provide only a selective view of meetings and lack a systemic understanding of the different purposes that meetings may serve. To integrate existing findings and provide a holistic perspective on meetings, we develop a general practice-based framework to study organizational meetings. This framework allows us both to 'zoom in' on the meeting, revealing different meeting practices and the related practical concerns (telos), and also to 'zoom out' of the meeting, revealing different types of associations between meetings and other organizational practices. As a result, this approach enriches our understanding of meetings and allows to grasp the practice of meeting as a distinct observable phenomenon with certain characteristics and specific effects on other organizational phenomena. In particular, we depict meetings as a distinct organizational practice that is unique in the breadth of possible practical concerns that orient its activities and the variety of organizational practices it is connected to. Our approach opens up promising new areas for future research on meetings.

Keywords

Literature review; meetings; organization; practice theory

4.1 Introduction

Meetings are a pervasive phenomenon in organizational life. They can be defined as "communicative event[s] involving three or more people who agree to assemble for a purpose ostensibly related to the functioning of an organization or group" (Schwartzman, 1989: 7) and might take many different forms, such as scheduled or unscheduled, single or recurrent, on-site or off-site. In his classical study on the work of managers, Mintzberg (1973) found that managers typically spend about two thirds of their time in scheduled and unscheduled meetings. This finding was corroborated by several subsequent studies (Ives & Margrethe H.Olson, 1981; Kurke & Aldrich, 1983; Lewis & Dahl, 1975; Tengblad, 2006; Tobia & Becker, 1990). Moreover, it has been estimated that more than eleven million business meetings take place in the United States every day (Doyle & Straus, 1986) and that organizations like 3M spend between 7 and 15 percent of their personnel budget on meetings (Monge, McSween, & Wyer, 1989; Rogelberg, Shanock, & Scott, 2011). Despite the increasing use of electronic communication media, meetings continue to be a vital aspect of organizational life.

Although meetings have been an object of study in a variety of disciplines for quite some time, particularly in anthropology (Bailey, 1965; Black, 1983; Howe, 1986; Schwartzman, 1989) and sociology (Boden, 1994, 1995; van Vree, 1999), until very recently the management literature had not been explicitly concerned with the particular role of meetings in organizations. Most studies treated meetings implicitly as 'neutral' frames for decision making in the organizations (Allison, 1971) or group work (Gersick, 1988). Contemporary work, however, suggests that meetings are more than mere 'containers' for decision-making and in fact actively shape organizational processes (Boden, 1994; Schwartzman, 1989), such as sense-making (Weick, 1995), agenda-setting (Adams, 2004; Tepper, 2004) and strategic change initiatives (Hodgkinson, Whittington, Johnson, & Schwarz, 2006). In strategy, for example, studies have shown how meetings shape the future direction of the organization (Jarzabkowski & Seidl, 2008; Johnson, Prashantham, Floyd, & Bourque, 2010; Schwarz, 2009). Scholars with a wide variety of perspectives are showing an increasing interest in meetings as a phenomenon, which is evident in a range of special issues on organizational meetings, such as in the *Journal of Business Communication* (Asmuß & Svennevig, 2009), in *Discourse Studies* (Svennevig, 2012) and in *Small Group Research* (Scott, Shanock, & Rogelberg, 2012).

In this paper, we review and synthesize the literature on meetings from the perspective of organization studies, taking stock of our knowledge of this important organizational phenomenon. Our review reveals that the existing literature on meetings is very broad and rather fragmented, with meetings having been an object of study in a variety of fields, such as political science (Adams, 2004), communication studies (Cooren, 2007), sociology (Boden, 1994, 1995), anthropology (Schwartzman, 1989) and recently also management studies (Johnson et al., 2010). We organize the existing literature around the five academic disciplines and the main theoretical perspectives they have applied to study meetings. Our analysis reveals that the different theoretical approaches, even though they share common elements and exhibit a certain affinity to each other, are not able to provide a comprehensive understanding of meetings as an organizational phenomenon. In particular, contemporary works lack a systematic understanding of the different purposes that meetings may serve, and typically exhibits a selective view of meetings, focusing on specific elements such as language and discourse, disregarding the role of embodied actions and artifacts in meetings. Lastly, the link between meetings and the organization as a whole is still little understood.

In order to address these weaknesses and to integrate existing findings into a common scheme, we propose a general practice-based framework of organizational meetings. In line with other practice studies (Reckwitz, 2002; Schatzki, 1996), we conceptualize meetings as a social practice, i.e. as "a routinized type of behavior which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, [and] know-how" (Reckwitz, 2002: 249). We draw on Nicolini's (2013) general practice-theoretical framework that synthesizes the different versions of practice theory and that is composed of a set of sensitizing concepts which allow to investigate the different aspects of practices. This proposed framework appears particularly useful for integrating the extant knowledge of meetings for a number of reasons: to start with, it can cover all the different aspects of meetings described in the existing literature. Furthermore, it lends itself to different levels of analysis and also brings to the forefront aspects of meetings (such as the role of socio-materiality and the body) that have been neglected in the relevant literature so far. Drawing on Nicolini (2013), we distinguish between two modes of studying meeting practices: 'zooming in' and 'zooming out' of a practice. 'Zooming in' on meetings helps reveal the different elements of the practice and the practical concerns (telos) to which they are oriented, while, in contrast, 'zooming out' places the links between the practice of meetings and other organizational practices in the foreground.

With our review and new framework we make several contributions to management studies in general and research on meetings in particular: first, we examine the different elements of the practice of meetings, namely, bodily behavior, mental activities, artifacts and background knowledge (Reckwitz, 2002) and thus offer a holistic account of meetings, their sub-practices and dynamics. Second, we identify and group the practical concerns that orient meeting activities into five main categories: cognitive, coordination, political, social and symbolic concerns. Delineating the breadth of practical concerns that meetings may serve starts to explain why meetings take on a variety of different forms and why they are so pervasive in organizations. Third, we demonstrate that meetings are connected to a variety of other organizational practices and we identify five different types of associations with different effects on the meeting and other organizational phenomena. This analysis reveals how the practice of meeting binds together various other organizational practices and constitutes an important hub in the bundle of practices that makes up an organization. Lastly, with the proposed practice-based framework we open up promising new avenues of future research on meetings.

The rest of this paper is structured into four sections. After this introduction, we explain the methodology we used to review and analyze the literature. Following that, we organize the existing literature around the five academic disciplines that are concerned with research on meetings and their main theoretical approaches. In the third section, we develop our practice-based framework, elaborating on the insights that can be gained by zooming in and zooming out of the meeting practice. We conclude this paper with a discussion of our proposed framework and the avenues we identify for future research.

4.2 Identification of the Literature

In order to identify the papers on which to base our literature review, we followed a three-step procedure. We started by conducting a search in the *Social Sciences Citation Index* (*ISI Web of Knowledge*), using the 'advanced search' tool and Boolean search strings. We chose this database as the most appropriate for our purpose because of its comprehensiveness and interdisciplinary scope. We included all years available in the database, but deactivated the 'spelling variation' option to avoid collecting too many unrelated references. In the 'topic' section of the database we searched for the combination of the words 'meeting' (and 'meetings' in plural) and 'organization', which yielded 1096 hits. Similarly, we searched for the combination 'workshop' (and 'workshops' in plural), as a particular type of meetings, and

'organization', which yielded another 303 references. Furthermore, we conducted the same search in the *Business Source Premier* database, in order to identify further papers that our first search might not have picked up. In contrast to the first database, Business Source Premier covers a greater range of business-related journals, which seemed particularly important for our topic. This search yielded an additional 279 results. Having completed both searches, we were left with an initial pool of 1678 papers; a quantity which most likely reflects the different meanings of the word 'meeting', as will be explained in the next paragraph.

We recognize that this search strategy does not allow us to capture articles whose empirical material is based on or includes meetings, but which do not explicitly mention 'meetings' as such. Yet we think this exclusion is justifiable since these articles analyze their results in conjunction with and related to different theoretical constructs, such as groups (e.g., Gersick, 1988; Gersick & Hackman, 1990) or democratic deliberations (e.g., Goodin, 2008; Mansbridge, 1983). These articles focus on specific activities that occur in meetings, such as group work (Gersick, 1988), and do not take into account the meeting as the particular context that shapes these activities. Since we are particularly interested in meetings as an organizational phenomenon, our search is targeted at articles that explicitly connect their research findings to meetings as a phenomenon.

Our next step was to exclude from our pool the papers that were not relevant to the topic of our study. We retained only papers that either documented practices in the context of meetings or workshops, or described the role of meetings or workshops within organizations. A large number of papers were excluded easily on the basis of their title; namely, wherever the title indicated that the word 'meeting' was used in the sense of 'reaching' or 'achieving' something (for example, 'meeting the sustainability challenge', 'meeting customer needs' or 'meeting organizational objectives'). Of the remaining papers, we reviewed the abstract. Again, this allowed us to exclude papers that used the word 'meeting' in a sense that was irrelevant to our purposes. We also removed from the pool any papers that merely referred to, but did not discuss or document meeting-related practices or the effects of meetings on the organization to a significant extent. Having been left with a much smaller number of papers, we then reviewed the full text and drew our final selection according to the same criteria. This resulted in a working list of 35 papers that were clearly concerned with meetings.

In the final step, we searched the 35 identified papers for references to other papers, entire books and chapters in books that might prove relevant to our review, for which we then conducted the evaluation process as described above. Having identified those additional texts,

we repeated the same search process repeatedly, following up and screening all potentially relevant references in each round, until we were satisfied that we had exhausted our search. This iterative process led to the identification of another 50 texts. Thus, the final list on which we built our review consisted of 85 papers, books and chapters in books.

4.3 Review of Meeting-Related Research

A first examination of the papers, books and chapters included in our shortlist revealed the disciplinary diversity of research on meetings. The five major disciplinary areas that we identified based on the research focus and the place of publication are communication studies, cultural anthropology, management studies, political science and sociology. Of those five disciplines, *cultural anthropology* has the longest tradition of such research (Bailey, 1965; Frake, 1969; Howe, 1986), while *communication studies* and *management studies* are the disciplines within which most current research takes place (Asmuß & Svennevig, 2009; Cooren, 2007; Jarzabkowski & Seidl, 2008; Johnson et al., 2010). Our next step was to identify the main theoretical approaches and types of empirical data in each of these five disciplines. Our analysis reveals that despite the disciplinary diversity of these approaches they share certain common elements. In particular, several theoretical perspectives are based on a variant of practice theory and those that are not exhibit at least some affinity towards practice theory through the concept of recursivity. As we will elaborate in the next section, this characteristic of meeting-related research allows us to integrate the findings of the extant literature under the common umbrella of practice theory. Another noteworthy feature of this body of research is that within the management literature, several scholars have drawn on theories and concepts from sociology and cultural anthropology to shed new light on meetings as an organizational phenomenon (Hendry & Seidl, 2003; Jarzabkowski & Seidl, 2008; Johnson et al., 2010). This practice is in line with the more general tendency of scholars in the fields of organization and management to borrow from other fields (Oswick, Fleming, & Hanlon, 2011).

Our review suggests that most research on meetings has a strong empirical focus with rich descriptions of meetings in various settings and with the theoretical framework used to analyze the data often left in the background. Table 11 provides a comprehensive overview of the central theoretical approaches to meeting-related research in each of the five disciplines mentioned above, together with a description of the respective core papers and their empirical settings.

Table 11: Main Academic Disciplines and Their Theoretical Perspectives on Meetings

Academic Discipline	Theoretical Perspective	Exemplary Studies	Main Contribution	Research Method & Setting
Communication Studies	Conversation Analysis	Barnes, 2007	Meetings are conceptualized as a specific type of speech-exchange system that differs from comparable systems (e.g. informal conversations) in that meetings are often chaired by someone who can allocate turns and has the right to talk first or after other speakers. The study shows that in order to reach consensus within a meeting, the chairman may use different linguistic formulations to close discussions on current topics and to move on to the next one.	Eight hours of video-recorded meeting interactions at a medical school.
		Kangasharju, 2002	Meetings are constituted by the interactions of people who can form alliances to tackle disagreements as turn-taking occurs. In meetings, disagreements often follow the formulation of a proposal for action, factual statements, or stance-taking, while alliances to resolve disagreements are often formed through the use of verbal or non-verbal elements such as repeating items from a previous turn in the discussion, completing ideas jointly, or nodding.	Video-recorded 25 committee meetings over a year.
	Metaconversations	Taylor & Robichaud, 2004	Meetings are conceptualized as conversations in which co-orientation—namely the negotiation and alignment of the participants' beliefs, actions and emotions—plays a central role. Conversations are always oriented towards a specific object or purpose and are part of previous, recursive, and more encompassing organizational conversations which the authors term 'metaconversations'.	Detailed observation and analysis of a video-recorded board meeting.
		Taylor & Robichaud, 2007	Meetings are formed by interactive talks underpinned by a 'constitution' i.e. the identification to a community, in that case an organization. This constitution comprises organizational metaconversations, which are themselves the product of narratives and story-telling that take place in meetings and elsewhere in the organization.	Analyzes an excerpt of a strategy workshop.
	Genre Theory	Angouri & Marra, 2010	Meetings are a 'distinct genre' in the sense that they have generic and typical features that participants can recognize. The authors focus on the practice of chairing meetings, which they conceptualize as a 'structural device' for managing interactions. They find that chairpersons tend to have specific functions in meetings, such as distributing responsibilities and tasks, opening and closing the meeting, and managing the agenda.	Observed series of meetings.
		Bargiela-Chiappini & Harris, 1995	Conceptualized as a genre, meetings are constituted of three hierarchical components, namely 'moves', 'exchanges', and 'phases'. Moves are the most basic components; they are characterized by utterances that start new 'communicative acts'. Several moves form exchanges i.e. clusters of 'self-contained units of discourse' (p. 540). In turn, exchanges take place in the opening, debating, and closing phase of meetings.	Observed formal and informal meetings in Britain and in Italy.

Management	Information Processing Theory	Eisenhardt, 1989	The authors argue that meetings offer organizations that evolve in high-velocity environments the opportunity to exchange real-time information on their operations and competitive environments. The paper shows that firms that are fast decision-makers and exhibit above-average performance organize meetings more frequently than firms which are slower in decision-making and perform worse.	Case study of eight small micro-computer firms.
		Grant, 2003	Meetings involved in strategic planning became more informal for multi-business companies that face increasingly turbulent environments. This informality is reflected in the decrease in the number of written formal documents, shorter meetings, and lesser presentations, which leaves more space for discussions aimed at fostering the exchange of information and ideas.	Comparative case study of ten leading oil & gas companies.
	Collective Cognition Perspective	Bürgi, Jacobs, & Roos, 2005	In their case study, the authors show how bodily activities can be employed in strategy workshops to change collective cognition. In the workshop the participants use their hands to manipulate LEGO blocks which helps them to make sense of their competitors and the business environment. Through this experience, individuals develop knowledge that is shared through social interaction and that results in the creation of collective cognition or meaning.	Observed two-day strategy workshop held by a telecom company; held follow-up interviews with participants.
		Mezias, Grinyer, & Guth, 2001	This paper is based on the assumption that for strategic change to occur, collective cognition must be changed. It identifies the factors that need to be addressed in strategy workshops so that collective cognition can change: e.g. top managers must be committed to the workshop, having a widespread representation of organizational members, an external agent must be hired to challenge the current mindsets, and the workshop must be conducted on a 'neutral' site.	Case studies of workshops having the goal to transform the organization.
	Social Systems Theory	Jarzabkowski & Seidl, 2008	Based on Luhmann's perspective, this paper conceptualizes meetings as episodes that comprise initiation, conduct, and termination phases. Each of these phases is characterized by distinct meeting practices which have the potential to stabilize or destabilize the current strategies, by encouraging variation within meetings and by selecting or de-selecting strategic initiatives.	Longitudinal study of three UK universities over seven years; Observed 51 meetings.
		Schwarz & Balogun, 2007	Drawing on Luhmann's conception of episodes, this paper sheds light on how strategy workshops are disconnected from or connected to strategic activities in the organization. The study focuses on how strategy workshop outcomes can be 're-coupled' to an organization's strategic activities. The results suggest that practices which connect past, present, and future organizational activities, as well as organizational structural arrangements that are neither too rigid nor too loose are more likely to help absorb workshop outputs.	Two in-depth, longitudinal case studies using ethnographic techniques.
	Ritual Theory	Bourque & Johnson, 2008	Strategy workshops share similarities with rituals. They are characterized by the removal from everyday practices, the use of liturgy and of specialists. Because strategy workshops produce knowledge that is generated in a ritualized and removed context, strategic initiatives and ideas may be more difficult to be re-coupled in the day-to-day strategic activities of the organization. The authors' results suggest that the higher the degree of ritualization, the more difficult the transfer from the workshop to the organization.	Observed a strategy away-day of a multinational corporation.

		Johnson et al., 2010	The forms of ritualization exhibited by strategy workshops can determine whether such workshops are successful i.e. whether they achieve their purposes. More specifically, participant commitment to the purpose of a workshop and the temporary suspension of organizational structures reduce organizational constraints and allow variation in behavioral, cognitive, and emotional patterns that serve the purposes of the workshop. 'Liturgy' (i.e. the prescribed form of a ritual) and drawing on the expertise of specialists also serve those purposes.	Conducted interviews and directly observed seven workshops.
Cultural Anthropology	N/A	Schwartzman, 1989	Schwartzman's book contributed significantly to the study of meetings with a thorough review of the literature at the time. It regards meetings as a crucial forum for sense-making within organizations and argues that meetings fulfill several roles, such as recognizing organizational issues, validating cultural beliefs, mediating formal and informal relationships between organizational members, and legitimizing or challenging the established order and the display of status.	Observed meetings and daily interactions in an American mental-health organization.
Sociology	Structuration Theory	Boden, 1994	Similar to Schwartzman, Boden's book is very influential in research on meetings. Based on Giddens's structuration theory, the author assumes that meeting activities are enabled or constrained by social structures and at the same time contribute to their generation and reproduction. Of particular interest is the emphasis on series of meetings: 'the key to [the] continuity of structure-in-action is sequence' (1994, p. 206). Through a series of interactions across time and space, meetings participate in the making of outcomes, people and decision which constitute the organization.	Observed and recorded talk in a variety of settings in different organizations.
		Boden, 1995	Based on structuration theory, this paper examines meetings as the site of sequentially, recursively, and cumulatively structured talks. It shows that in meetings, negotiations involve not only relations of power, but also interactions among participants over time. The paper points out that negotiations are 'constituted in and through the structure of talk itself' (p. 94), and as such are rarely the product of isolated events.	Observed and recorded talk in a variety of settings in different organizations.
Political Science	N/A	Adams, 2004	The study examines public meetings as means of accomplishing political objectives and empowering citizens. In the context of public debates, meetings may serve as mediums of (1) gathering information about public opinion, (2) showing support to friendly officials, (3) shaming officials for inappropriate decisions, (4) setting the agenda, (5) delaying voting due to 'public outcry', and (6) communicating and forming networks.	Interviews with 55 politically active citizens.
		Tepper, 2004	Meetings are an important tool for influencing policy-making, in that (1) they enable stakeholders to frame or reframe a problem, (2) call attention to new and important evidence, (3) create and sustain communities of experts, (4) make audiences receptive to a new ideas, (5) sustain the momentum of an idea, (6) foster policy transfer and knowledge uptake, and (7) help policy entrepreneurs to test ideas, develop meaningful and influential contacts and networks, and predict or plan the opening of future policy windows.	Secondary research (e.g. reports, public statements).

4.3.1 Meeting-Related Research in Communication Studies

By nature, meetings offer a setting for communication, so it is hardly surprising that communication studies is one of the most prolific disciplines in meeting-related research (Asmuß & Svennevig, 2009; Cooren, 2007; Sacks, Schegloff, & Jefferson, 1974). The most influential approach within that discipline is *conversation analysis*, first developed by Harvey Sacks and his colleagues Schegloff and Jefferson in the late 1960s and early 1970s (Sacks et al., 1974). Conversation analysis is rooted in Ethnomethodology, a particular strand of practice theory (Nicolini, 2013) and is concerned with the study of talk in the context of interaction; particularly with the way in which conversation is accomplished in and through turns of speech (Sacks et al., 1974). From this perspective, meetings are conceptualized as a specific type of speech-exchange system (Svennevig, 2012), which differs from other turn-taking conversations in that they are often chaired by someone who can allocate turns and has the right to talk first or to talk after other speakers (Barnes, 2007; Llewellyn, 2005). The turn-taking model in meetings is not uniform, however, but may vary according to the degree of formality that characterizes a meeting (Asmuß & Svennevig, 2009). In more formal meetings, longer turns are typical as participants are expected to provide reports, accounts and position statements (Kangasharju, 2002), while in more informal meetings turn-taking is more casual, being based on the self-selection of speakers.

While the conversation-analytic approach to meetings is more rooted in the subfield of language and social interaction within the discipline of communication studies (Cooren, 2007), scholars in the subfield of organizational communication employ *narration theory* and the concepts of *conversations* and *metaconversations* to understand how communication in meetings shapes and is shaped by the organization (Cooren, 2007; Robichaud, Giroux, & Taylor, 2004; Taylor & Robichaud, 2004, 2007). From this perspective, "conversation, framed within a material/social and a language environment, is the site where organizing occurs" (Taylor & Robichaud, 2004: 395). As such, conversations are always oriented towards a specific object or purpose and form the basis for action. Taylor and Robichaud (2004) show how meetings can be understood as conversations that result in the co-orientation of the participants; namely they negotiate and align their beliefs, actions and emotions. While this perspective is not rooted in the tradition of practice theory, it shares an important concept with it, that is the idea of recursivity. Robichaud and his colleagues (2004), as well as Taylor and Robichaud (2007), demonstrate how meetings are not only the site where conversations occur, but also where past conversations are recursively embedded in current conversations, thereby resulting in the construction of metaconversations. As Robichaud and his colleagues

(2004) argue, metaconversations form the basis of the collective identity and unified voice of the organization. Thus, by utilizing the concept of metaconversations, Robichaud and his colleagues (2004) are able to link the micro-activities occurring in meetings to phenomena on the organizational level. This link between micro- and more meso- or macro-level phenomena is also a central concern in practice theory (Seidl & Whittington, 2014).

A third theoretical perspective employed by scholars in the field of communication studies is *genre theory* (Bargiela-Chiappini & Harris, 1995, 1997; Orlikowski & Yates, 1994; Yates & Orlikowski, 1992). Conceptualizing communication as inherently embedded in everyday social practices (e.g., Giddens, 1984), Orlikowski and Yates (1994: 542) define genres of organizational communication as "socially recognized types of communicative actions […] that are habitually enacted by members of a community to realize particular social purposes". According to this view, meetings are a genre of organizational communication that is clearly defined by specific structural features, such as an agenda and a chairperson. While it is easy to define an event of communication as a meeting on the basis of such characteristics, the purpose of meetings may vary (Orlikowski & Yates, 1994). Applying the concept of genre to management meetings, Bargiela-Chiappini and Harris (1995; 1997) develop a generic structure of meetings, while Angouri and Marra (2010) demonstrate the role of the chairperson as a generalizable feature of meetings. While meetings can be seen as a genre *per se*, they can also be viewed as a *genre system*, where several interrelated genres are enacted (Orlikowski & Yates, 1994), or studied as *sites*, where other genres of organizational communication are invoked (Lehtinen & Pälli, 2011).

Empirically, communication scholars have studied a wide range of different settings, from general management meetings in the private sector (Bargiela-Chiappini & Harris, 1997; Huisman, 2001; Kangasharju & Nikko, 2009; Taylor & Robichaud, 2004, 2007) and the public sector (Kangasharju, 2002; van Praet, 2009), to planning meetings (Iedema, 1999) and staff meetings (Mirivel & Tracy, 2005), to meetings between public authorities and citizens (Robichaud et al., 2004).

4.3.2 Meeting-Related Research in Management Studies

In the classical management literature, we find several studies related to meetings. These studies, however, do not treat meetings as a research object *per se*, but rather as the background for studying other organizational phenomena such as decision-making processes (Allison, 1971; March & Olsen, 1976; Mintzberg, Raisinghani, & Theoret, 1976). In contrast, the more recent management literature suggests that scholars have started to take a direct

interest in meetings, partly inspired by theories from other disciplines. Overall, we can identify four theoretical perspectives on meetings in the management literature. From the perspective of *information-processing theory* (Gailbraith, 1973; Tushman & Nadler, 1978), meetings are an important tool for pooling information and developing shared understandings in conditions of high uncertainty (Eisenhardt, 1989; Gailbraith, 1973; Gittel, 2002; Grant, 2003; Menz, 1999; Mintzberg, 1973; Tushman & Nadler, 1978). Meetings are thus understood as structural mechanisms that improve an organization's capacity to gather and absorb information.

In more contemporary works, management scholars have sought to overcome the positivist and functional orientation of information-processing theory and focused more on how meetings are enacted in practice. Scholars drawing on the *collective-cognition perspective* (Bowman, 1995; Bürgi et al., 2005; Mezias et al., 2001; Weick, 1995) focus on the relation between mental activities and actions in meetings. According to this perspective, cognition is understood as a mediator between the environment and organizational or individual responses. Meetings are treated as a central sense-making device (Weick, 1995) and as a space in which top managers can create a shared understanding of the organization and its environment, e.g. through the use of images and metaphors (Raes, Glunk, Heijltjes, & Roe, 2007) or through the engagement with physical representations of problem situations (Bürgi et al., 2005). In line with this conceptualization, Mezias and his colleagues (2001) consider changes in collective cognition as the main purpose of strategy workshops, i.e. meetings that are carried out off-site.

Another set of scholars (Hendry & Seidl, 2003; Jarzabkowski & Seidl, 2008; MacIntosh, MacLean, & Seidl, 2010; Schwarz & Balogun, 2007) draw on *social-systems theory*, as developed particularly by Luhmann (Luhmann, 1995; Seidl & Becker, 2005). While Luhmann's social systems theory strictly speaking is not a theory of practice, it offers important analytical concepts to scholars working in the practice-based tradition because it takes the idea of recursivity between structure and action (in the case of Luhmann, communication) serious (Hendry & Seidl, 2003). Hence, practice-based studies investigating the role of meetings in the strategy process have drawn on Luhmann's concept of 'episodes' to illuminate how strategy meetings can generate change in recursively self-producing system. In these works, meetings are conceptualized as episodes that are only loosely coupled to the rest of the organization. These episodes allow for the suspension of organizational structures and routines and thus provide the opportunity to explore alternative courses of action. Researchers who apply this approach to meetings have been particularly interested in how

structures and routines become suspended at the beginning of a meeting, how alternative structures become instated during the meeting, and how at the end of the meeting, processes become re-coupled to the overarching organization.

A fourth strand of research on meetings that focuses on off-site strategy meetings (i.e. strategy workshops) draws on *ritual theory* (Bourque & Johnson, 2008; Johnson, Prashantham, & Floyd, 2006; Johnson et al., 2010), which has its roots in anthropology and focuses on the extent to which particular social processes and practices are differentiated and privileged over others (Bell, 1992). Scholars who adopt this perspective argue that strategy workshops possess features of rituals, such as removal from the everyday, the use of liturgy (i.e. the prescribed form of the ritual that leads participants to behave in ways different from the everyday) and the employment of specialists (i.e. people that are specialized in the liturgy), and also fulfill ritualistic functions in the organization. Ritual theory in particular has been often employed to explain different behavioural dynamics within workshops and different outcomes of workshop activity. In their work, Johnson et al. (Bourque & Johnson, 2008; Johnson et al., 2006; Johnson et al., 2010) identify what was recently termed the 'effectivity paradox' of strategy workshops (MacIntosh et al., 2010): "the very separation and anti-structure that [strategy workshops] foster may hinder the transfer of ideas and plans back to the everyday work situation" (Johnson et al., 2006: 27).

The empirical settings of meetings that are covered in the management studies literature are as diverse as its theoretical foundations. Management scholars have studied meetings in a variety of empirical settings, such as meetings in organized anarchies (March & Olsen, 1976), governmental meetings in the Cuban missile crisis (Allison, 1971), meetings in high-velocity environments (Eisenhardt, 1989), in universities (Jarzabkowski & Seidl, 2008), in hospitals (Gautam, 2005) and in a range of different industries (Hodgkinson et al., 2006; Kaplan, 2011). Recently, off-site strategy meetings (Bourque & Johnson, 2008; Johnson et al., 2006; Johnson et al., 2010) and board meetings (Gautam, 2005; Peck, Gulliver, & Towell, 2004) have received particular attention by management scholars.

4.3.3 Meeting-Related Research in Cultural Anthropology

Researchers in cultural anthropology have studied meetings – predominantly in non-Western societies – to investigate the manifestation of cultural traits in meetings and what role meetings play in different cultural settings (Bailey, 1965; Black, 1983; Frake, 1969; Howe, 1986; Myers, 1986; Schwartzman, 1989). While there are no dominant theoretical perspectives on meetings in cultural anthropology, the research provides us with rich, in-depth

descriptions of the practices and features of meetings in different contexts. The empirical settings vary from Indian village councils and committees (Bailey, 1965), Kuna-village town meetings in Panama (Howe, 1986) and different types of interaction in the Yakan society in the Philippines (Frake, 1969) to Aboriginal gatherings in Australia (Myers, 1986). One of the most influential anthropologists who has studied meetings, and one of the few who has studied meetings in a Western society, is Schwartzman (1989). She juxtaposes her own research on an American mental health organization with anthropological research in non-Western societies to demonstrate the importance of meetings in American society.

4.3.4 Meeting-Related Research in Sociology

In sociology, researchers have been mainly concerned with how meeting activities contribute to the generation and reproduction of social structures and how such activities are both enabled and constrained by social structures (e.g. Boden, 1994, 1995; van Vree, 1999). The main theoretical perspective employed in that research is *structuration theory* (Giddens, 1984), a particular strand of practice theory which has also influenced researchers in management studies (Schwarz, 2009). Studies that adopt this perspective argue that organizations are essentially constructed and sustained through meetings, which in essence constitute the space where organizations come together (Boden, 1995). These studies also emphasize that it is important to study series of meetings, as "the key to [the] continuity of structure-in-action is sequence" (Boden, 1994: 206). Through a series of interactions across time and space, meetings allow the making of "people, ideas, decisions, and outcomes that make the organization" (Boden, 1994: 106). Empirically, research in this area has been primarily concerned with everyday business meetings and historical accounts of meetings (e.g., van Vree, 1999).

4.3.5 Meeting-Related Research in Political Science

In political science, researchers have studied behavior in public hearings and political forums, such as political commissions, task forces, roundtables, working groups and summits, as well as the role of these gatherings in the political system. In particular, they have examined how meetings influence policy-making, as they are the setting in which problems are framed, new ideas are tested, audiences are prepared for the introduction of such ideas, the transfer of policies and knowledge takes place and influential networks develop (Tepper, 2004). Public meetings have also been shown to constitute a tool for citizens to accomplish political objectives (Adams, 2004). As in the case of cultural anthropology, there is no dominant

theoretical perspective on the topic of meetings in the field of political science. The empirical settings covered in the relevant literature vary widely, ranging from studies on public hearings (Adams, 2004), to meetings at the communal level (Olsen, 1970), to 'non-routine' gatherings and forums (Tepper, 2004).

4.3.6 Summary and Comparison of Theoretical Perspectives

Identifying and delineating the theoretical and empirical foundations of the current state of research on meetings offers some important insights and allows us to draw a number of conclusions. First, our brief review confirms that meetings constitute a ubiquitous phenomenon that occurs in a wide variety of settings and that, in spite of the increasing use of electronic communication media, they continue to be a central feature of social and organizational life. Second, through our compilation of the different theoretical perspectives, meetings are revealed as highly complex phenomena with several different structural features and many different purposes (such as pooling information, generating collective cognitions or advancing political agendas). Third, our review uncovers that most of the theoretical perspectives that have been applied to study meetings are either associated with some variant of practice theory (e.g., conversation analysis is rooted in Ethnomethodology, genre theory focuses on communicative practices, ritual theory focuses on the privileged nature of specific practices) or share a certain affinity with practice theory (e.g., Luhmann's social systems theory and the metaconversation perspective are centrally concerned with recursivity between structure and communication). Even in those academic disciplines where no dominant theoretical discipline could be identified (i.e., cultural anthropology and political science), studies on meetings are characterized by rich empirical accounts of meetings (e.g., ethnographies) that are well aligned with the general practice-theoretical tenet of 'getting close to practice'. However, despite this common basis, research is shown to focus either on the internal structures and dynamics of meetings (for example, research based on conversation analysis and genre theory) or on the relation between meetings and the wider social context in which they are embedded (for example, research based on structuration theory or on the concept of metaconversations). Finally, depending on the particular tradition they are rooted in, existing studies typically exhibit a selective view of meetings, focusing on specific elements, rather than examining how these elements interact. For instance, conversation analysts and genre theorists have traditionally focused on the particular communicative structures of meetings, while scholars who adopt the collective-cognition perspective and the information-processing perspective have focused on mental activities.

It is only more recently that research in these fields has started to take a more comprehensive approach to the topic. For example, in the field of conversation analysis there has been a recognition of the limitations of focusing only on talk in meetings and a call for a multimodal approach that integrates the various modes of communication – such as talk, text, images and embodied action (Svennevig, 2012). Similarly, Angouri and Marra (2010) extend the genre-theory approach to meetings by taking into account specific types of activity and discourse. Overall, this trend seems to suggest a need for developing more holistic approaches that capture the many different elements of meetings and how these interact. Only through such an approach will it become possible to develop a more comprehensive understanding of the internal dynamics of meetings and their role within organizations.

In the following, we outline a general practice-theoretical framework for studying meetings that has the potential to offer such a comprehensive view and to integrate the findings of the different streams of literature. We recognize that our approach does not do justice to the plurality of theoretical perspectives present in the literature, but rather is an attempt to synthesize existing findings on the basis of a particular perspective, i.e., the practice-theoretical perspective. Yet we argue that this approach is justifiable because, unlike the plurality of theories in organization studies in general, the theoretical diversity in research on meetings is not incommensurable (Scherer, 1998; Scherer & Steinmann, 1999). Rather, as our review shows, most theoretical perspectives dominant in the literature on meetings are associated with or demonstrate affinity with strands of practice theory. In addition, the practice-theoretical perspective appears to be particularly fruitful to overcome seeing meetings as mere containers for the activities taking place within them and instead understanding meetings as actively shaping and being shaped by particular actions.

4.4 Towards a General Practice-Theoretical Framework for Studying Meetings

Practice theorists such as Wittgenstein, de Certeau, Taylor, Bourdieu, Giddens and Foucault suggest that we study social phenomena on the basis of the practices they involve. A practice can be understood as a "temporally unfolding and spatially dispersed nexus of doings and sayings" (Schatzki, 1996: 89), which involves a large set of elements such as "forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, [and] know-how" (Reckwitz, 2002: 249). Accordingly, we conceptualize meetings as particular social practices which consist of several sub-practices,

such as chairing a meeting, giving a PowerPoint presentation or writing meeting minutes. We will refer to these sub-practices of meetings as 'meeting practices'.

Contemporary practice-theoretical approaches comprise a heterogeneous set of theoretical perspectives that are rooted in a number of different approaches and traditions. As Schatzki and his colleagues argue (2001: 2), "there is no unified practice approach". Even though various scholars recognize that there exist similarities and 'family resemblances' (Nicolini, 2013: 2014) and authors often refer to 'the practice-based approach' to distinguish themselves from other positivist or interpretive approaches, to date there exist few attempts to define the elements that are common to this group of theoretical approaches (see Reckwitz, 2002 for an exception). Nicolini's (2013) general practice-theoretical framework for studying practices can be understood as the first attempt to synthesize the different versions of practice theory and to propose a set of sensitizing concepts that aim to provide a more comprehensive and richer understanding of social and organizational practices. Such an approach is warranted because the different versions of practice theory "have both advantages and limitations when it comes to the empirical study of practice" (Nicolini, 2013: 2015). For example, the conversation analytic, narrative and genre theoretical tradition of practice theory focuses very much on the 'sayings' of practice, neglecting the 'doings' and embodied aspects of practice (see also Seidl & Whittington, 2014). The general practice-theoretical framework developed by Nicolini (2013) deliberately switches between theoretical sensitivities in order to develop thicker and richer accounts of practices. This pluralistic approach is legitimate because all variants of practice theory share at least some common elements (Nicolini, 2013) and are unified in their basic ontological and epistemological assumptions.

Applying Nicolini's (2013) general practice-theoretical framework to the study of meetings appears particularly useful for synthesizing and integrating the existing findings in the literature, as it helps capture the many and diverse aspects of meetings and meeting dynamics and is more encompassing than the theoretical perspectives that most existing studies on meetings draw on. Furthermore, Nicolini's (2013) framework can be applied to different levels of analysis, allowing us to study in fine-grained detail the characteristic practices of meetings as well as the links between meetings and other organizational (and societal) practices and phenomena. Also, the framework helps bring to the fore important aspects of meetings that have been neglected in the literature so far such as the role of socio-materiality and the body which are emphasized by other strands of practice theory.

Following Nicolini (2013), we propose combining two conceptual movements when studying meetings – 'zooming in' on and 'zooming out' of meetings. *Zooming in* on a

meeting allows scrutinizing its micro-structures and micro-dynamics and highlights the various sub-practices involved and their various elements. Conversely, *zooming out* of the meeting helps bring into view the various relations to and associations with other organizational (and societal) practices and processes, revealing the wider texture of practice into which the meetings are embedded. Figure 9 illustrates both approaches.

4.4.1 Zooming in on the Meeting: Meeting Practices and Related Practical Concerns

Zooming in on the meeting allows researchers to focus on the different sub-practices involved and on their different elements, such as bodily and mental activities, artifacts and background knowledge (Reckwitz, 2002). Importantly, such a micro-view directs our attention also to the specific orientation or *practical concerns* (so called telos) of meeting practices. What Nicolini (2009: 1402) terms the 'lived directionality' of practices describes the observation that "practices are always oriented and […] performed in view of the accomplishment of meaning and direction that they carry". In enacting a practice, actors experience a "sense of what to do and what ought to be done" (Nicolini, 2009: 1402). 'Lived directionality' might be implicit or explicit and actors may be (partly) aware or (partly) unaware of the practices they enact. In a similar vein, Chia and Holt (2006: 648) speak of *purposive* action – in contrast to purposeful action – highlighting that action is always aimed at a particular outcome, even though the actors might not intentionally focus on that outcome.

When analyzing existing research for the specific practical concerns that characterize meetings, we were surprised by the range and breadth of practical concerns evident in the literature. We inductively derived the different practical concerns from the literature and, in a grounded theory manner (Suddaby, 2006) grouped them into higher, more abstract, categories. By iterating between the various empirical studies of meetings and our categories, we identified and defined five mutually exclusive and collectively exhaustive categories of practical concerns, which in various ways have been (implicitly or explicitly) ascribed to meetings or individual meeting practices. We labeled these categories according to their general orientation towards (1) coordination, (2) cognitive, (3) political, (4) social and (5) symbolic concerns. Each of these categories comprises several specific sub-types of concerns (see Table 12 for an overview). For example, there are four different types of *coordination concerns*, such as synchronization, determination of future courses of action, pooling and distribution of information, and distribution and monitoring of tasks. While these categories of practical concerns can be differentiated analytically, in reality they are often combined; that is, the same meeting practice can be oriented towards several practical concerns at the same

Figure 9: Conceptual Movements—Zooming in and Zooming out of the Meeting

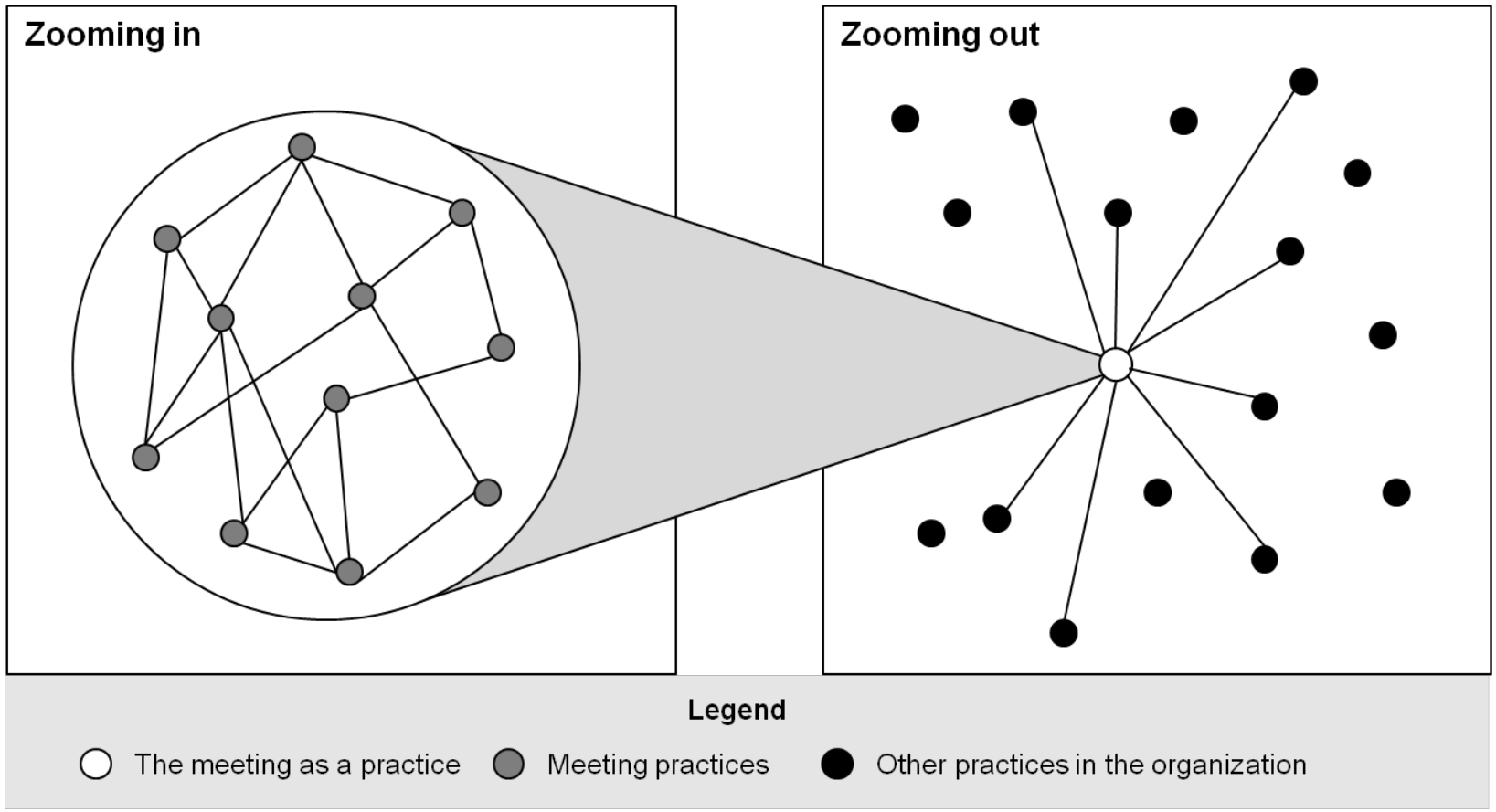


**Table 12: Zooming in on the Meeting—
Focusing on the Practical Concerns of Meeting Practices**

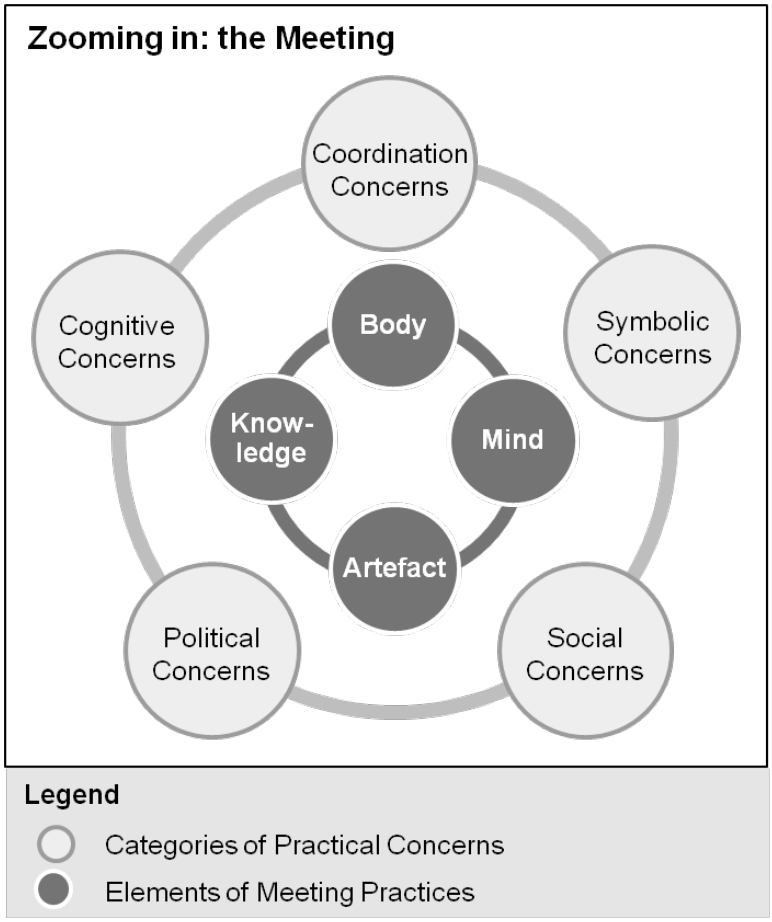
	Practical concerns of Meeting Practices	Exemplary Studies
Cognitive	Sense-making	Mezias et al., 2001; Schwartzman, 1989; Weick, 1995
	Critical reflection	Bowman, 1995; Hendry & Seidl, 2003; Schwarz & Balogun, 2007
	Generation and development of new ideas	Hodgkinson et al., 2006; Jarzabkowski & Seidl, 2008; Mezias et al., 2001
	Collective identification of issues and solutions	Grant, 2003; Terry, 1987; Tuggle, Schnatterly, & Johnson, 2010
Coordination	Synchronization	Boden, 1995; Brinkerhoff, 1972
	Determine future action	Clifton, 2009; Huisman, 2001; Mintzberg et al., 1976
	Pool and distribute information	Eisenhardt, 1989; Mintzberg, 1973; Schwartzman, 1989
	Distribute and monitor tasks	Christiansen & Varnes, 2007; Kaplan, 2011; Mirivel & Tracy, 2005
Political	Advance an agenda	Adams, 2004; Angouri & Marra, 2010; Tepper, 2004
	Exert influence	Clifton, 2009; Samra-Fredericks, 2003; van Praet, 2009
	Suppress new ideas	Jarzabkowski & Seidl, 2008; Schwarz, 2009
	Form alliances	Adams, 2004; Kangasharju, 1996, 2002
Social	Establish networks and relationships	Hodgkinson et al., 2006; Peck et al., 2004; Stevenson & Radin, 2009; Tepper, 2004
	Build group and organizational identity	Bürgi et al., 2005; Kärreman & Alvesson, 2001; Mirivel & Tracy, 2005
	Form social values, norms and beliefs	Nielsen, 2009; Robichaud et al., 2004; Samra-Fredericks, 2003
Symbolic	Validate established order	Bailey, 1965; Boden, 1994; Rasmussen, 2011
	Perform ritual	Bourque & Johnson, 2008; Johnson et al., 2010
	Signal status	Black, 1983; Starker, 1978; van Praet, 2009

time – in some cases, a specific type of practical concern features prominently in the foreground, while in other cases all categories might be of equal importance.

In the following sections we will describe the five different categories of practical concerns in greater detail, elaborating on the relevant insights that can be gleaned from existing research on the subject of meetings. More specifically, we will show that different types of practical concerns are often associated with particular sub-practices of meetings (such as chairing a meeting or recording meeting minutes) or even with particular elements of

such practices (such as the way the body is used or the type of artifacts that are employed). The view gained from focusing on the internal aspects of meetings is illustrated in Figure 10.

Figure 10: Zooming in on the Meeting



Coordination Concerns

A well documented concern of meeting practices is to bring people together and to coordinate the different activities within an organization. In this regard, meeting practices may be oriented towards (1) synchronizing actions, (2) determining future actions, (3) pooling and distributing information and (4) allocating and monitoring tasks. According to Boden (1995: 86) meeting practices often have the important task of '*synchronizing*' different activities; that is "ensuring that the 'right people' see each other at the "right time"' to look at the same problem. Similarly, in a study on the use of staff conferences by managers, Brinkerhoff (1972) argues that the purpose of the meeting is to bring people together in order to coordinate activities and respond to contingencies or solve problems. For instance, the practice of chairing a meeting and guiding the discussion along the issues of a predefined

agenda focuses the attention of all meeting participants on specific topics and thus achieves their synchronization.

Such practices tend to be primarily discursive in nature but often also involve bodily behavior or artifacts, as various researchers have shown; for example, the transition from one topic or agenda item to the next in the course of a discussion is often accomplished through gestures or shifts in the gaze of the participants, or by means of artifacts such as picking up a cup of coffee (Deppermann, Schmitt, & Mondada, 2010). Spee and Jarzabkowski (2011) identify strategic plans as an example of textual artifacts: a strategic plan influences the meeting's agenda, regulates the flow of the discussion and synchronizes the activities of the participants over a series of meetings. Indeed, meeting practices may be oriented towards synchronizing the activities of participants not only in a single meeting, but also over *a series* of meetings. Practices that are specifically aimed at achieving synchronization over a series of meetings include rescheduling issues, creating working groups and reporting back from working groups (Jarzabkowski & Seidl, 2008).

Meetings also function as the space in which *future courses of action are determined* Clifton, 2009; Huisman, 2001; Mintzberg et al., 1976. As Clifton (2009) points out, determining future actions requires that a course of future action be projected and agreed to it either by verbal or nonverbal means, such as nodding. Similarly, Barnes (2007) describes the discursive practice of 'candidate pre-closing' formulations, which function as signals that a sequence in the discussion has come to an end. An example of this are instances where the chairperson summarizes the preceding discussion, essentially closing the business at hand and moving on to the next issue on the agenda.

Gatherings also facilitate the *pooling and distribution of information* Adams, 2004; Blackler, Crump, & McDonald, 2000; Boden, 1995; Mintzberg, 1973; Seibold, 1979; Tepper, 2004; Terry, 1987, for instance through the practices of conveying personal or restricted information to other participants (Adams, 2004), reviewing reports (Schwartzman, 1989), writing down meeting minutes (Schwartzman, 1989) and summarizing information in reports that form the basis of future discussions (Tepper, 2004). All such practices very often involve and rely heavily on artifacts, such as PowerPoint presentations (Kaplan, 2011) and written texts. Investigating different meeting sizes, Boden (1994) as well as Mirivel and Tracy (2005) found that larger meetings are typically more information-oriented, while smaller meetings are more decision-oriented; that is, oriented towards determining the future course of action. In fact, as Bailey (1965) suggests, deciding on a future course of action becomes increasingly difficult as the number of participants in a group increases.

Finally, meeting participants may direct their efforts more towards *distributing responsibilities for tasks* and *monitoring the progress of those tasks* Christiansen & Varnes, 2007; Kaplan, 2011; Mirivel & Tracy, 2005; Volkema & Niederman, 1996. The relevant meeting practices include developing and agreeing on lists of actions and deadlines Jarzabkowski & Seidl, 2008; MacIntosh et al., 2010; Schwarz & Balogun, 2007, as well as assigning responsibilities and creating timetables (Mezias et al., 2001). Also, the practice of reviewing and discussing particular project summaries and reports in subsequent meetings is geared to monitoring specific projects (Christiansen & Varnes, 2007). All these practices typically involve a range of different artifacts that document and summarize previous decisions and the progress that has been achieved so far, such as meeting minutes (Schwartzman, 1989), decks of PowerPoint slides (Kaplan, 2011) and project templates (Christiansen & Varnes, 2007).

Cognitive Concerns

Meeting practices may also be oriented towards shaping individual and collective cognition. In that respect, meetings can mediate (1) sense-making, (2) critical reflection, (3) the generation and development of new ideas and (4) the recognition of issues and problems and their importance.

As Weick (1995) remarks, because meetings constitute the settings where most arguments take place, they are often portrayed as a key *sense-making* device. From this perspective, meetings shape and are shaped by socio-cultural systems (Schwartzman, 1989). In fact, Schwartzman (1989: 9) recognizes that meetings might be not only the site where decisions or problem-solving can develop, but also "what decisions, problems, and crises are about". From this point of view, decisions are reached and problems are solved because meetings take place which may, in turn, produce organizations. The greater the need of people to make sense of what is going on, the more meetings are scheduled and, as a result, the more problems are recognized and decisions made. Hence, Weick (1995: 185) draws the conclusion "that people need to meet more often".

A range of different meeting practices oriented towards sense-making have been identified in the relevant literature. The majority are discursive in nature, since sense-making typically involves the articulation and comparison of different interpretations and arguments (Schwartzman, 1989). For instance, Grant (2003) points out how informal, focused discussions about the issues underlying a specific problem reduce uncertainty. Similarly, Taylor and Robichaud (2007) find that telling narratives in meetings contributes to collective sense-making. Furthermore, besides telling stories individually, participants also engage in

joint storytelling, which contributes to a joint understanding of the situation at hand (Kangasharju, 1996; Mirivel & Tracy, 2005). Asmuß and Svennevig (2009) observe how middle managers use leadership in meetings to support sense-giving: the manager contextualizes the experiences and observations of employees and aligns their perception with his or her own perception of organizational practices. In contrast, autocratic leadership expressed as dominating behavior in meetings discourages sense-making (Weick, 1995). Samra-Fredericks (2003) has identified a number of subtle verbal practices that are employed in meetings in order to support sense-giving, such as using metaphors, references to the past and the display of emotions. The discursive practices oriented towards sense-making can be supported and enhanced by the use of specific artifacts such as strategy tools (Hodgkinson et al., 2006; Schwarz & Balogun, 2007), PowerPoint (Kaplan, 2011) or LEGO (Bürgi et al., 2005). For instance, Kaplan (2011) shows how PowerPoint mediates debates on interpretive differences and facilitates the process of reaching an agreement. Nevertheless, not all practices that influence sense-making are purposely applied to this end. For example, Mezias et al. (2001) as well as MacIntosh et al. (2010) observe that the way in which a meeting is scheduled influences the kind, breadth and depth of topics that can be discussed and thus shapes sense-making within that meeting.

Besides sense-making, *critical reflection* is another practical concern towards which specific meeting practices are geared. As Grant (2003) points out, challenging underlying assumptions and beliefs in strategic-planning meetings is precisely such a practice. Especially in strategy workshops, practices such as the use of ground rules (Schwarz & Balogun, 2007; Seidl, MacIntosh, & MacLean, 2012) and scheduling the meeting away from the office are aimed at creating an atmosphere that promotes critical reflection (Johnson et al., 2010; MacIntosh et al., 2010; Mezias et al., 2001; Schwarz, 2009; Schwarz & Balogun, 2007). The separation between meetings and day-to-day activities that such practices achieve is precisely what enables participants to step out of their established cognitive routines and mindsets and reflect critically on the organization's strategic orientations (Hendry & Seidl, 2003; Hodgkinson et al., 2006; Johnson et al., 2010). Bürgi et al. (2005) have shown how the use of artifacts, such as using LEGO bricks to visualize the image of the organization and its environment, may stimulate and encourage critical reflection by opening up a new perspective on a familiar situation.

Another practical concern that specific meeting practices relate to is the *generation and development of new ideas*. For instance, brainstorming with the aid of a whiteboard or a flipchart (Blackler et al., 2000; Schwarz & Balogun, 2007) aims at creating new ideas. It

should be noted that other practices, such as chairing a meeting in a way that allows a free discussion to emerge (Jarzabkowski & Seidl, 2008), may also result in the generation and development of new ideas.

Finally, certain meeting-related practices contribute to the *recognition of issues and problems and their importance*, even though this may not be their explicit aim (Bürgi et al., 2005; Schwartzman, 1989; Terry, 1987; Tuggle et al., 2010). For instance, Bürgi et al. (2005) demonstrate that using LEGO bricks at a workshop to construct a model of the competitive landscape enabled the participants to recognize the threat of a previously underestimated competitor. Various studies (Schwartzman, 1989; Terry, 1987) have stressed that discussions in meetings allow participants to grasp better the size and significance of a problem. Participants may also note the recurrence of specific topics over time and the seniority of meeting participants to appreciate the importance of the topics discussed (MacIntosh et al., 2010; Mezias et al., 2001; Schwartzman, 1989). Similarly, the expression of intense feelings may signal to participants the importance of specific issues (Tracy, 2007).

Political Concerns

Certain meeting practices serve political purposes, namely (1) setting and advancing a particular agenda, (2) exerting influence, (3) suppressing new ideas or (4) forming alliances and building support. While these meeting practices may be performed with a political goal in mind, often the political direction of a practice is not explicit and can only be identified when the implicit and tacit orientations of that practice are scrutinized.

Meeting practices that are performed in view of *setting and advancing a particular agenda* include bargaining to gain an advantage and negotiating a certain topic (Boden, 1995; Jarzabkowski & Balogun, 2009; Mintzberg, 1973), talking about non-agenda items (Adams, 2004), pushing for more time to be allocated to the discussion of an issue or keeping certain topics on the agenda until an opportunity to deal properly with them arises (Tepper, 2004). As various scholars have shown, controlling the agenda allows individual participants to manipulate particular points according to their interest (Jarzabkowski & Seidl, 2008; Volkema & Niederman, 1996).

Certain meeting practices are more generally aimed at *exerting influence on others* and thus produce results in the interest of a particular individual or group (Rasmussen, 2011). For instance, Boden (1995) points out how constructing arguments in a particular way, using personal pronouns, intersubjectivity (i.e. the socially shared understandings of talk and action) and position statements (i.e. a specific viewpoint that is contrasted with other viewpoints) are devices used to persuade others to accept an argument and produce results that are desirable

from the speaker's point of view. Similarly, Samra-Fredericks (2003) demonstrates how questions and queries can be employed at the right moment and in the right manner to steer the discussion in a particular direction and achieve a particular result. Other subtle verbal means of exerting influence include negating prior statements or allowing other participants to take ownership of decision-making (Clifton, 2009).

Embodied actions that can exert influence in meetings include laughter, which downplays or even negates a previous speaker's statement (Schwarz, 2009), walking into a corner of the room to demonstrate a clear separation from other parties in the meeting (Schwarz & Balogun, 2007) or leaving the room altogether (Schwarz, 2009). Several researchers have shown how the use of artifacts can also contribute to exerting influence. For instance, the preparation and use of PowerPoint slides (Kaplan, 2011) or written documents (Spee & Jarzabkowski, 2011) affords participants in a meeting the possibility to include and exclude selectively information and other organizational members in the strategy-making process, e.g. by acknowledging or failing to mention their activities, decisions or impact. Even practices that are officially aimed at other tasks, such as timetabling, may be implicitly performed with a view to exerting influence (Whittington, Molloy, Mayer, & Smith, 2006).

Another practical concern of meeting practices may be the *suppression of new ideas*. For instance, Jarzabkowksi and Seidl (2008) found that chairing a meeting in a way that restricts free discussion is also directed at suppressing any new ideas that may emerge. Similarly, the use of autocratic leadership styles might suppress free discussions and thus the emergence of new ideas (Weick, 1995).

Lastly, there's a range of practices aimed at *forming alliances and building support* in the context of meetings (Adams, 2004; Kangasharju, 1996, 2002; Taylor & Robichaud, 2007; Tepper, 2004). Discursive practices oriented towards the formation of alliances include joint story-telling (Kangasharju, 1996; Mirivel & Tracy, 2005), the collaborative completion of someone's turn, repeating elements of the previous turn, correcting a one-sided statement or reformulating what was previously said (Kangasharju, 2002). Similarly, embodied actions such as nodding (Clifton, 2009), eye and body movement, laughter and smiling (Kangasharju, 2002) may be directed at forming alliances and building support for a particular topic. Particular spatial arrangements may likewise influence the formation of alliances (Schwartzman, 1989). Again, meeting practices that officially serve different purposes, such as taking breaks (Johnson et al., 2006), may also be conducive to building support.

Symbolic Concerns

As Boden (1994: 106) remarks "meetings must, at least in part, be seen as symbolic affairs", not only because they follow certain routines and patterns, but because they remain a vital aspect of organizational life, although the practical need for people to assemble physically is decreasing as a result of technological developments, such as teleconferencing. The symbolic concerns of meeting practices include (1) the legitimation and validation of the established order, (2) the performance of rituals or (3) status and changes in status.

When an organizational member accepts to take part in a meeting without questioning its format or without overtly disagreeing about the setting of the meeting, he or she essentially *agrees to the established order* that is embedded in the meeting (Bailey, 1965; Schwartzman, 1989). For instance, if the participants adhere to behavior and etiquette that has been established as appropriate, effectively they contribute to the validation of the established order (Black, 1983). Thus, meetings can play a symbolic role in the sense that by complying with the established norms and values (e.g. by not questioning the structure of a meeting or by adhering to etiquette), participants help perpetuate and legitimate these norms and values.

Along the same lines, certain meeting practices may signal *status or changes in status*. For instance, coming late to a meeting (van Praet, 2009), not joining a laughter sequence (van Praet, 2009), sitting apart from the rest of a group (Hodgkinson & Wright, 2002) and silencing other meeting participants through a quiet cough or gaze (Black, 1983) can all signal the status and power of an individual. Additionally, explicit speech in meetings often carries implicit meanings about status, rights and obligations (Schwartzman, 1989; Taylor & Robichaud, 2007). For instance, a manager telling a story about an employee and complaining about his actions implicitly refers to the rights an employee has or does not have (Taylor & Robichaud, 2007). Boden (1994) recognizes that the practice of selecting and inviting participants to a meeting signifies implicitly the status of those who are selected. Likewise, Starker (1978) points out that taking on increasingly more active roles in a conference, e.g. progressing from a mere participant to a speaker or organizer, also signals status change.

Meeting-related practices may also be *ritualistic in nature*. Such practices are performed primarily in view of the symbolic value that they carry. In an early work Olsen (1970) pointed out that, whereas most studies on budgeting assumed that analysis should focus primarily on resource allocation, in fact they ought to focus on the ritualistic aspects of how decisions on budgets were reached. Since that observation, some researchers have started to analyze meetings themselves as ritualistic practices. For example, several studies have looked at the ritualistic aspects of strategy workshops, such as the necessity for participants to

be physically away from their daily workplace, the use of liturgy (e.g. specialized strategy tools and concepts) and the employment of specialists (e.g. workshop facilitators or strategy experts) (Johnson et al., 2010; MacIntosh et al., 2010; Mezias et al., 2001; Schwarz, 2009; Schwarz & Balogun, 2007). Ritualistic practices create 'liminal' experiences similar to those that have been observed in rites of transition (Alexander, 1997). These liminal experiences allow participants to review critically and challenge the existing organizational structure, to develop and decide on changes to these structures and to carry back to their organization 'symbols' of the initiated changes, such as a list of actions or a flip chart (Bourque & Johnson, 2008; Johnson et al., 2006).

Social Concerns

An often implicit but nevertheless important orientation of meeting practices is of a social nature. The social practical concerns includes (1) forming social values, norms and beliefs, (2) forming group and organizational identities and (3) establishing networks and relationships. Meeting practices that are directed at *forming social values, norms and beliefs* include promoting common schemas of interpretations (Nielsen, 2009) and specific vocabulary that managers often use in meetings (Bürgi et al., 2005; Nielsen, 2009; Peck et al., 2004). For instance, talking about 'right and wrong' and 'good and bad' contributes to the formation of specific values and norms (Samra-Fredericks, 2003). Similarly, van Praet (2009)observed in an ethnographic study of the British Embassy in Belgium how the ambassador used staff meetings to promote his hierarchy-based values of interaction and behavior. Similarly, the expression of affect and emotions in meetings carries meaning about what is appropriate and what is not appropriate in particular settings (Schwartzman, 1989; Tracy, 2007). What kinds of feelings are appropriate to express, and to what extent, crucially depends on the type of meeting, the people involved as well as the content discussed (Tracy, 2007).

Certain meeting practices may also be performed in view of *shaping a group identity or organizational identity*. For instance, Kärreman and Alvesson (2001) observed how linguistic acts and practices in meetings enact identities. Participants tell stories to each other describing their understanding of customers, products, the relations in the organization and with its environment, thereby implicitly exploring and fleshing out what it means to be a member of the organization. Similarly, pre-meeting talk (Mirivel & Tracy, 2005) and the construction of narratives (Robichaud et al., 2004) help negotiate and construct a group or organizational identity (Schwartzman, 1989). Besides discursive practices, embodied action as well as particular artifacts may also carry meaning about identity. Using a LEGO-building exercise in a strategy workshop, Bürgi et al. (2005) demonstrate how tangible representations

of an organization help its members achieve a joint understanding of the organization's identity.

Finally, *building and sustaining relationships and networks* is an important target at which some meeting practices specifically aim (Adams, 2004; Stevenson & Radin, 2009; Tepper, 2004; Terry, 1987). Several years ago, Myers (1986) noted in his study of Australian Aborigines how in meetings talk was first oriented towards sustaining social relations among the participants before specific topics could be discussed. Similarly, Schwartzman (1989: 43) has pointed out how implicit meanings associated with specific expressions and formulations in meetings allow "individuals to negotiate and/or comment on their formal and informal social relationships while they appear to be making a decision, solving a problem". Especially in strategy workshops, the practice of holding the meeting off-site and for several days is often directed at creating an atmosphere in which the participants build relationships and networks; often these may involve explicit team-building exercises (Hodgkinson et al., 2006; Johnson et al., 2010; MacIntosh et al., 2010; Schwarz, 2009).

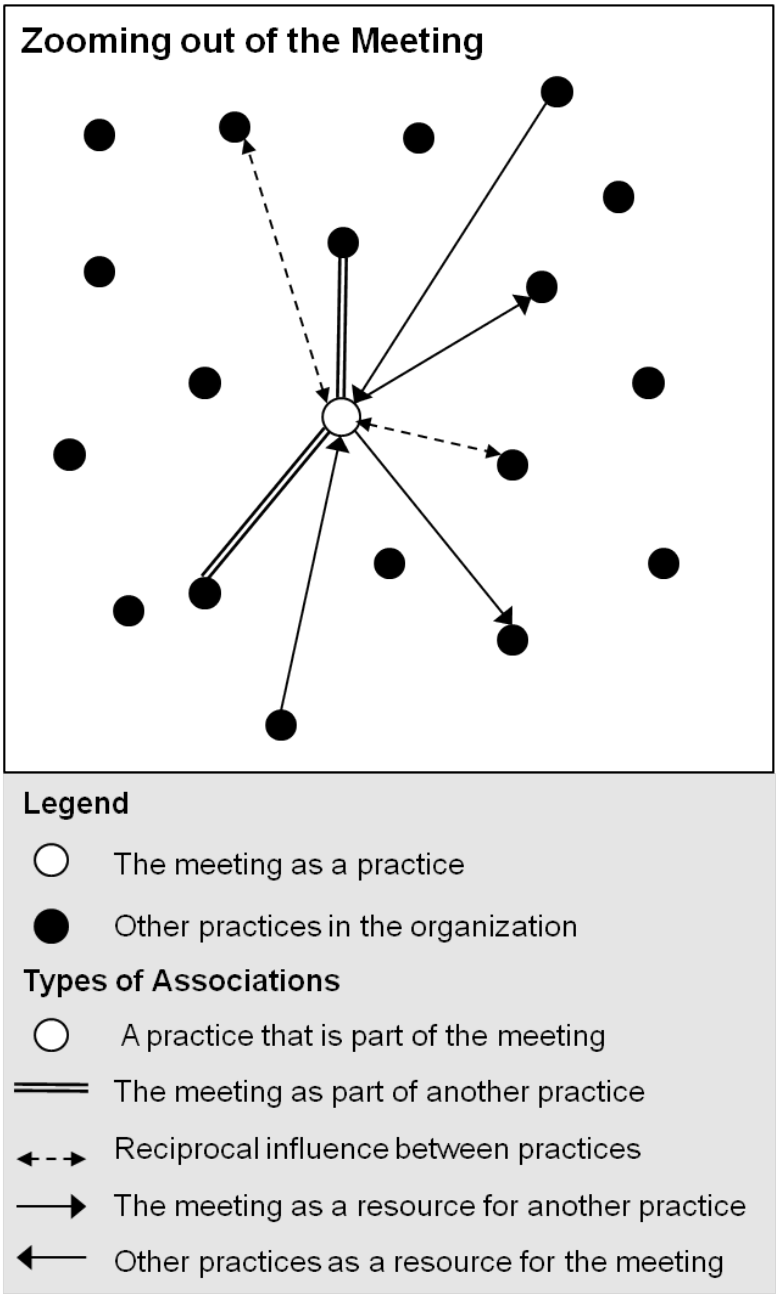
Summary of Meeting Practices and The Related Practical Concerns

Zooming in on meeting practices and the purposes they serve has allowed us to view the meeting as a closely knit, complex network of practices that are multi-facetted because they may be characterized by different practical concerns at the same time. This breadth of practical concerns in meetings reveals the high level of adaptability and flexibility of meetings and suggests that meetings may be so pervasive in organizations precisely *because* they can be employed for a range of different purposes. At the same time, however, the practical concerns dominating a particular meeting or meeting practices are always negotiated amongst the meeting participants. Furthermore, while the idea that meetings are constituted primarily of discursive practices is quite common, our extensive overview of existing studies has revealed the importance of non-discursive practices involving embodied action. Non-discursive practices may enhance and support discursive practices but may also be independent of the latter and be directed at fulfilling a different purpose. This close-up view of meetings, however, offers only a partial understanding of the meeting as a practice. Meetings never occur in isolation but are always embedded in a network of other organizational practices. In order to gain a holistic understanding of meetings, we also need to zoom out of the meeting and examine how, as a practice, it is linked to other practices that constitute the organization.

4.4.2 Zooming out of Meetings: Linking Meetings to Organizations

To foreground the connections between the meeting as a practice and other organizational practices (see Figure 11), we have to zoom out of the meeting and shift the practices it encompasses, which we have already examined in detail, to the background. This will allow us to view how the practice of meetings is connected with other organizational (or societal) practices, how it affects and is affected by other practices and how it is enabled or constrained by the network of practices it is embedded in.

Figure 11: Zooming out of the Meeting



In the next sections we follow Nicolini's (2013) general practice-theoretical framework by examining the connections between meetings and other organizational practices. In particular, Nicolini (2013: 230) suggesst that in order to understand the "texture" of the bundle of practices in which the meeting is embedded four related investigations are necessary: First, scholars should trail the connections between the meeting and other practices and then examine the effects of the meeting that are produced through these connections. In addition, scholars should examine how the meeting is enabled and constrained by other practices and finally investigate the role of mediators in stabilizing the connections between the meeting and other practices (see Table 13 for an overview).

Table 13: Zooming out of the Meeting—
Trailing Links between Meetings and Organizations

	Types of Links	Exemplary Studies
Connections with Other Practices	Individual practices as a part of meetings	Boden, 1994; Jarzabkowski & Seidl, 2008; Schwartzman, 1989
	The meeting as part of another practice	Christiansen & Varnes, 2007; Grant, 2003
	Reciprocal influence between practices	Gabriel, 2008; Stephens & Davis, 2009
	Meetings as resources for other practices	Jarzabkowski & Seidl, 2008; Johnson et al., 2010; MacIntosh et al., 2010
	Other practices as a resource for meetings	Tepper, 2004; Volkema & Niederman, 1996
Effects of Meetings*	Reduce Ambiguity	Taylor & Robichaud, 2007; Weick, 1995
	Enhance or inhibit identity, norms, values, and beliefs	Jarzabkowski & Balogun, 2009; Nielsen, 2009; Schwartzman, 1989; Tracy, 2007
	Reinforce relationships and power struggles	Hodgkinson et al., 2006; Peck et al., 2004; Seibold, 1979
Enablers and Constraints of Meetings*	Organizational norms and values reinforce or weaken meeting practices	Mirivel & Tracy, 2005; Stephens & Davis, 2009; Weick, 1995
	Established relationships and networks facilitate the formation of alliances	Blackler et al., 2000; Kangasharju, 1996; Oswick, 2007
	An unstable environment increases informality and frequency and decreases duration	Eisenhardt, 1989; Grant, 2003
Mediators	Generalizers that introduce the meeting into other practices	Boden, 1994; Iedema, 1999; Schwartzman, 1989
	Localizers that bring other practices into the meeting	Nicolini, 2009; Volkema & Niederman, 1996

* The list of types of links for the categories 'effects of meetings' and 'enablers and constraints of meetings' is not exhaustive.

Trailing the Connections Between the Meeting and Other Practices

To understand how meetings are embedded in the broader network of organizational practices we need to examine to which other practices meetings are connected, as well what types of connections exist and how they are maintained. In the existing literature there are no studies that focus specifically on how meetings are embedded in organizations, however there are some anecdotal references on which we will draw for illustrative purposes.

Our review of the literature reveals that the practice of meetings is connected to a wide range of other practices, depending on the context and the organization. For example, meetings may be connected to the development of new products (Christiansen & Varnes, 2007), drafting new policies (Adams, 2004), strategy-making (Hodgkinson et al., 2006; Jarzabkowski & Seidl, 2008), managing (Clifton, 2009; Huisman, 2001) or planning (Grant, 2003). A close examination of existing studies on meetings reveals five types of associations between meetings and other practices in the organization (see also Figure 11). How these associations are formed and maintained depends on their type.

The first and most obvious connection is *a practice that is a part of the meeting*. Above, we refer to such sub-practices within meetings as '*meeting practices*' distinguishing them from the *meeting as a practice*. As the close-up on meetings has shown, practices such as chairing a meeting, joint story-telling in meetings or PowerPoint presentations are all integral parts of meetings. While some of these practices (such as chairing a meeting, preparing an agenda or keeping meeting minutes) are specific to meetings, i.e. they only occur in that context, other practices (such as PowerPoint presentations, open discussions or drinking coffee) also occur in other settings. Following Schatzki (1996: 98) we might refer to the former types of practices as 'integrative practices' and to the latter as 'dispersed practices'. Clearly, the association between meeting practices and the meeting as a practice is very strong. Any changes in a meeting practice immediately affect the meeting in which it takes place.

The converse is also the case: *meetings are themselves often part of other organizational practices*. For instance, Grant (2003) studied the strategic planning practices of ten major oil companies and found that meetings are an essential part of the practice of strategic planning. He argues that the increasing instability and complexity of the environment in which such companies operate creates more challenges, which strategy-making has to tackle. As a result, the practice of meetings has changed in that they have become shorter and more informal, focusing increasingly on challenging underlying assumptions rather than featuring long presentations. This indicates that in the context of strategic planning the

coordination purpose of meetings has receded somewhat into the background, while the concerns of sense-making and critical reflection have become more important. Another example is given by Christiansen and Varnes (2007), who studied the role of gate meetings in the practice of project management in an organization. The authors found that gate meetings, besides having a coordination purpose, also have an important symbolic orientation because they increase the visibility of projects and project managers at higher levels in the hierarchy. As in the previous case, here too the connection between the meeting and other organizational practices is quite strong, so changes in the practice of meeting tend to trigger changes in the greater organizational practice. Conversely, changes in the practices that encompass meetings (such as the practice of strategic planning as described by Grant (2003)) might result in changes in the practice of meetings.

A third type of connections between meetings and other practices entails *reciprocal influence although the practices are not part of each other*. For instance, documenting, storing and disseminating information by means of documents may be understood as a practice that is oriented towards knowledge management. Such documents are subsequently used in meetings to distribute information and thus provide a basis for discussion. With the introduction and increasing use of PowerPoint the practice of presenting information at meetings changed (Gabriel, 2008). As a result, the way in which knowledge was documented, stored and disseminated also changed: the bullet points, pictures, figures and graphs that are typical of PowerPoint increasingly replace lengthy texts.

Another example would be the practices of communication in organizations. These practices have substantially changed in recent years due to the increasing use of information and communication technologies (ICTs). In turn, these changes have had an impact on how participants in meetings communicate with each other and how they engage in other activities not related to meetings (Stephens & Davis, 2009). For instance, participants may use their personal mobile devices, such as laptops, personal digital assistants, and mobile phones to communicate with other individuals outside the meeting or work on topics that are not related to the content of the discussion. Similarly, mobile devices may be used to send messages to other participants of the same meeting (Stephens, 2012; Stephens & Davis, 2009), thereby conveying information that previously may have been conveyed through embodied actions, such as a gaze. Thus, the increasing use of mobile devices outside meetings eventually also influenced how organizational members communicate inside them. Practices that reciprocally influence each other can be said to overlap or intersect. A change in one practice does not necessarily but *may* result in a change in the overlapping or intersecting practice.

Meetings can also serve as *a resource for another practice*, which describes a fourth type of connection. For instance, Jarzabkowski and Seidl (2008: 1425) describe how in one of its meetings the academic board of a particular university decided to promote the recruitment of international students. Following that meeting, the practice of recruiting international students drew on this decision as a 'resource' and 'input'. It should be noted, however, that, as several scholars shown (Bourque & Johnson, 2008; Johnson et al., 2006; Johnson et al., 2010; MacIntosh et al., 2010; Schwartzman, 1989; Seidl et al., 2012), this association between meetings and other organizational practices may be weak, because transferring decisions from a meeting to the overall organization can be challenging. The literature lists several explanations for this phenomenon, such as the structural separation of the meeting from the organization (Johnson et al., 2006), the transitory emotional commitment to decisions (Johnson et al., 2010), the pressure to revert to old behavior (Johnson et al., 2006; MacIntosh et al., 2010) or the fact that decisions are context-dependent (Huisman, 2001). Despite such explanations, it still remains an open question why in some cases these associations are weak, while in other cases they are stronger.

According to the final type of such associations, *other practices may serve as a resource for a meeting*. For instance, all the support documents that are used in meetings (Volkema & Niederman, 1996) are the result of other practices, such as producing reports, analyzing the market or financial reporting. Tepper (2004), for instance, observes how reports from research projects are used in policy meetings as a basis for drafting new policies. This type of association between the meeting and other practices has not been studied extensively so there is not much information on how it is established and maintained.

Studying the Effects of the Meeting as a Practice

A second approach to zooming out of the practice of meetings is to study *its effects*, not only on other practices but also more generally on organizational phenomena such as identity or power relationships (Nicolini, 2009; Nicolini, 2013). In this context, 'effects' refers not to the productivity of meetings often discussed in practitioners' guides, but rather to the kind of consequences that enacting the practice of meeting has on an organization, e.g., what kind of "opportunities for action" (Nicolini, 2013: 232) it generates or prevents. As the discussion of the five categories of practical concerns in the previous section has already shown, meeting practices may be oriented towards a number of different purposes and may thus influence both other practices and the organization as a whole.

For instance, meeting practices aimed at determining the future course of actions in and by the organization may impact how *the organization* develops over time. Strategy

workshops are an example of meeting practices that are clearly aimed at influencing the future course of the organization. In the existing literature there is a debate on the extent to which strategy workshops actually influence the future development of the organization, because in some instances strategy workshops have noticeable effects while in others they do not (MacIntosh et al., 2010). This issue has also been discussed under the label of the 'effectivity paradox' of strategy workshops (Johnson et al., 2006; MacIntosh et al., 2010). From a practice-based viewpoint, however, the question is not whether an individual strategy workshop influences the future development of a particular organization at a particular point in time, but whether the practice of strategy workshops more generally has an effect on how organizations develop over time. Given the widespread use of strategy workshops in organizations (Hodgkinson et al., 2006) and some indications that a series of workshops does have an impact on the organization and its development (MacIntosh et al., 2010), this suggests that the practice of strategy workshops has an effect on the organization. To understand the effects of strategy workshops on the organization as a whole, however, a comprehensive investigation is necessary, not only into individual cases of strategy workshops, but broad enough to cover other sites where the practice shows up, such as classes that teach how to facilitate strategy workshops, conferences and gatherings where the practice is discussed and the literature that describes and critically reviews the practice of strategy workshops.

Meetings may also affect *particular aspects* of the organization. For example, there are indications that meeting practices oriented towards sense-making, such as narratives and joint storytelling, may result in the reduction of ambiguity in the organization (Taylor & Robichaud, 2007; Weick, 1995). Similarly, meeting practices with a political orientation, such as exerting influence or forming alliances, may result in an alignment of interests (Jarzabkowski & Balogun, 2009) or a change of power relations within the organization. Also, given the social orientation of certain meeting practices, meetings may have an effect on group identity and organizational identity (Bürgi et al., 2005), on organizational norms, values and beliefs (Nielsen, 2009; Schwartzman, 1989; Tracy, 2007), as well as on the relationships between organizational members (Hodgkinson et al., 2006; Peck et al., 2004; Seibold, 1979). Nevertheless, the available literature offers very little evidence on *how and to what extent* the practice of meetings affects the organization at large.

Examining How the Meeting is Enabled or Constrained

The practice of meetings not only affects other organizational practices, but at the same time it is enabled and constrained by other practices, events and phenomenon. In the literature, we

identified three distinct factors that might enable or constrain the meeting: (1) organizational norms and values (2) relationships and networks and (3) the environment.

First, there is significant evidence that *organizational norms and values* influence the practice of meetings. Stephens and Davis (2009), for instance, show how organizational norms concerning the use of electronic devices for purposes of communication (e.g. smart phones, laptop) influence the extent to which participants use these devices in meetings to engage in activities not related to the content of the meeting. Similarly, norms that determine which feelings are allowed or expected to be displayed, and to what degree, when organizational members interact with each other influence the type and intensity of emotions that are displayed in a meeting (Mirivel & Tracy, 2005; Schwartzman, 1989). Also, norms that encourage obedience or risk aversion tend to discourage meeting practices oriented towards sense-making (Weick, 1995). Lastly, in organizations that are characterized by egalitarian norms and values, meeting practices are very much oriented towards sense-making. In contrast, in organizations that are characterized by more hierarchical norms and values, the symbolic orientation of legitimating and validating the established order is often in the foreground (Schwartzman, 1989).

Second, the existing *relationships between and networks of* organizational members shape meeting dynamics and practices (Oswick, 2007). For instance, Kangasharju (1996) observes how pre-established relationships between meeting participants influence the development of teams and alliances in meetings. Similarly, previous disagreements between participants may foreground the political concerns of particular meeting practices and lead to power struggles and conflict (Blackler et al., 2000). Likewise, Oswick (2007: 294) emphasizes how the "local relational context" influences and shapes the dynamics of meetings.

Third, as certain studies indicate, the *organizational environment* can enable or constrain the practice of meetings. For instance, Eisenhardt (1989) found that meetings tend to be more frequent in organizations that operate in high-velocity environments and that the meeting practices are much more oriented towards sense-making and critical reflection. Likewise, Grant (2003) observes that in increasingly unstable and complex environments meetings tend to be shorter and more informal. However, to fully understand how the environment enables or constrains the meeting as an organizational practice more studies are necessary.

Focusing on the Role of Mediators

In order to study empirically the effects of meetings on other organizational practices and phenomena and vice versa, Nicolini (2009) suggests that the concept of *mediators* may be applied, a concept which originates in the sociology of translation (Latour, 2005). Mediators are objects that support the associations between practices and also translate the effects of practices across time and space. Mediators can be "boundary objects, names, protocols, forms of categorization and rules" (Nicolini, 2009: 1410). Such mediators are typically involved in cases where practices function as resources or inputs for other practices (i.e. meetings serve as a resource for another practice or vice versa).

Two different types of mediators can be distinguished (Latour, 2005). First, mediators may act as *generalizers*; that is, they introduce the meeting into other practices by summarizing and encapsulating it. For instance, meeting minutes summarize the discussions and decisions that have taken place in a particular meeting and thus introduce them into other meetings or other organizational practices. Several authors (Boden, 1994; Iedema, 1999; Schwartzman, 1989) recognize that the formalization of meaning in meeting minutes plays a crucial role in determining the effects the meeting has on the organization. Another example of a generalizer is the narrative. Narratives that are told about particular meetings summarize what has happened in the meeting and are an important way of translating the effect of the meeting across time and space (Schwartzman, 1989). Schwartzman (1989) has found that in stories and narratives the meeting may be referred to as though it had a life of its own, in that a meeting may be talked about as an agent that takes a particular decision or acts in a particular way. Narratives may make their appearances in different discursive practices, such as informal discussions at the water-cooler or in interviews.

Second, mediators may act as *localizers* in the sense that they are objects that bring other practices into the meeting. For instance, the reports and documents that are used in meetings (Volkema & Niederman, 1996) summarize other organizational practices, such as financial reporting or market analysis. Also, narratives and stories are not only told *about* the meeting, but also *inside* the meeting. In the latter case, the narratives act as localizers that effectuate the presence of other organizational practices or phenomena in the meeting. For instance, Robichaud et al. (2004) remark that the identity of an organization is made present in meetings through joint storytelling. Nicolini (2009) provides another example, in which the medical files of patients that doctors and nurses refer to and study in their meetings act as localizers of the practice of patient treatment.

Overall, zooming out of meetings, our analysis reveals that the practice of meeting is intertwined with many other different organizational practices in various ways. The types of associations between the meeting and other organizational practices and phenomena have implications for the effects of meetings on the organization and vice versa. Our analysis suggests that meetings are a distinct organizational practice constituting an important hub in the bundle of practices that make up the organization (Schatzki, 2005).

4.5 Avenues for Future Research

From the practice-based framework that we developed for analyzing meetings and from our overview and synthesis of existing studies on meetings from this perspective it becomes clear that our understanding of the practice of meeting and its role in the organization, while substantial, is far from comprehensive. From a practice-based perspective, a number of exciting and inspiring avenues for future research along the two conceptual movements of zooming in and zooming out can be pointed out.

Zooming in on the meeting opens up the promising possibility of considering simultaneously all four elements that constitute a practice; that is the body, the mind, artifacts and background knowledge. While existing research has primarily focused on discursive practices in meetings, especially on talk and the use of language, our review shows that other elements, such as artifacts, are also often involved. Future research on meeting practices should take all other elements equally into account and integrate them into a holistic understanding of meeting practices. Even though our methodological repertoire of analyzing texts and languages may be more comprehensive and further developed than methodologies to analyze embodied actions and artifacts, in our view the latter areas are the ones most promising to further our understanding of meeting practices. Similarly, our concept of the five categories of practical concerns and their expression in particular meeting practices needs to be further developed and empirically examined, in particular to shed light on how the five categories of practical concerns interact with each other and how a practice may be simultaneously oriented towards several different purposes. In particular, future studies could investigate how actors negotiate multiple practical concerns and with what effects.

Examining the interplay between practical concerns could also help develop a typology of meetings. As both Schwartzman (1989) and Boden (1994) suggest, the significance of particular types of practical concerns and their expression in specific meeting practices may differ, depending on the type of meeting. In the relevant literature, we find

categorizations such as formal vs. informal meetings, top-level vs. lower-level meetings, sovereign vs. subservient meetings, pre-meetings vs. post-meetings and unscheduled vs. scheduled meetings (Boden, 1994; Mintzberg, 1973; Schwartzman, 1989). These categories, however, are based primarily on how meetings are categorized by the participants themselves. The differentiation of categories of practical concerns and meeting practices that we propose might help classify types of meetings on a sounder theoretical basis. Lastly, it would be interesting to study the meeting practices that do not constitute the core of the meeting, such as side discussions, discussions during meeting breaks and pre- and post-meeting talk. For instance, Johnson et al. (2006) observe that informal discussions during meeting breaks influence meeting dynamics and outcomes. The differentiation between front-stage and backstage performance as suggested by Goffman (1959) may be helpful for exploring the influence and effects of these more informal discussions and their interaction with more formal talk in meetings.

Z*ooming out of the meeting* seems an even more promising approach for increasing our understanding of its role in the organization. In the previous sections we distinguished five different types of associations between meetings and a wide range of other organizational practices. Future research could cast more light on those associations by examining them empirically and, more importantly, investigate *how* these associations are kept in place. There is also a need to examine systematically the effects of meetings on other organizational practices and phenomena and more particularly the *potential* of the meeting as an organizational practice to influence the organization. This may involve studying a series of meetings over time rather than individual meetings and examining the role of mediators in translating the effects of the meeting across time and space (Nicolini, 2009). The latter requires that researchers focus on the artifacts that support the associations between the meeting and other organizational or societal practices, such as meeting minutes, reports or protocols. For instance, insights may be gained from tracing where and when the *label* of significant meetings in the organization appears and how it is used.

Studies that focus on how the meeting is enabled or constrained by other practices and phenomena offer another promising avenue for future research. As we have seen, a range of organizational phenomena, such as identity or norms, influence the meeting and its dynamics, however, little is known about how the meeting as a practice is enabled or constrained by environmental factors, such as the national and local culture. Finally, further insights could be gained from studying how the speed of change in, as well as the complexity of the environment influences the meeting as a practice.

4.6 Conclusion

In this paper we have provided a comprehensive review of the widespread, but fragmented literature on meetings and their role in the organization. Drawing on this review, we developed a general practice-theoretical framework of the practice of meeting in the organization that combines two conceptual moves. First, by zooming in on the meeting, we highlighted the five different categories of practical concerns that orient meeting practices as well as the importance of considering the four elements of a meeting practice holistically (i.e. the body, the mind, artifacts and background knowledge). Second, zooming out of the meeting reveals that the practice of meeting is embedded in a larger bundle of organizational practices that both influences how meetings are enacted and is in turn influenced by the practice of meeting. This approach allows grasping the different aspects of the practice of meeting and thereby provides a richer account of this organizational phenomenon than previous studies. Overall, our results depict meetings as a distinct organizational practice that is unique in the breadth of possible practical concerns that orient its activities and the variety of organizational practices it is connected to. This paper advances a novel perspective on organizational meetings that starts to explain why meetings have been and continue to be such a pervasive organizational phenomenon. It also provides a starting point for uncovering the different mechanisms that generate the particular effects of enacting the practice of meeting in organizations, and, thereby as we hope, opens up fruitful new avenues for future studies.

Funding

This work was supported by the Swiss National Science Foundation (Grant No. 100014_130338).

References

Adams, B. 2004. Public Meetings and the Democratic Process. ***Public Administration Review***, 64(1): 43–54.

Alexander, B. C. 1997. Ritual and current studies of ritual. In S. D. Glazier (Ed.), ***Anthropology of religion: a handbook***: 139–160. Westport, CT: Greenwood Press.

Allison, G. 1971. ***Essence of Decision: Explaining the Cuban Missile Crisis***. Boston: Harvard: Harper Collins Publisher.

Angouri, J., & Marra, M. 2010. Corporate meetings as genre: a study of the role of the chair in corporate meeting talk. ***Text & Talk - An Interdisciplinary Journal of Language, Discourse & Communication Studies***, 30(6): 615–636.

Asmuß, B., & Svennevig, J. 2009. Meeting Talk. ***Journal of Business Communication***, 46(1): 3–22.

Bailey, F. G. 1965. Decisions by consensus in councils and committees. In F. G. Bailey (Ed.), ***Political systems and the distribution of power***. London: Tavistock.

Bargiela-Chiappini, F., & Harris, S. J. 1995. Towards the generic structure of meetings in British and Italian managements. ***Text - Interdisciplinary Journal for the Study of Discourse***, 15(4): 531–560.

Bargiela-Chiappini, F., & Harris, S. J. 1997. ***Managing language***: ***The discourse of corporate meetings***. Amsterdam & Philadelphia: John Benjamins.

Barnes, R. 2007. Formulations and the facilitation of common agreement in meetings talk. ***Text & Talk - An Interdisciplinary Journal of Language, Discourse & Communication Studies***, 27(3): 273–296.

Bell, C. 1992. ***Ritual Theory, Ritual Practice***. Oxford: Oxford University Press.

Black, P. W. 1983. Conflicts, Morality and Power in a Western Caroline Society. ***Journal of Polynesian Society***(92): 7–30.

Blackler, F., Crump, N., & McDonald, S. 2000. Organizing Processes in Complex Activity Networks. ***Organization***, 7(2): 277–300.

Boden, D. 1994. ***The Business of Talk***: ***Organizations in Action***. London: Polity Press.

Boden, D. 1995. Agendas and arrangements: Everyday negotiations in meetings. In A. Firth (Ed.), ***The discourse of negotiation. Studies of language in the workplace*** (1st ed.). Oxford: Pergamon.

Bourque, N., & Johnson, G. 2008. Strategy Workshops and 'Away-Days' as Ritual. In G. P. Hodgkinson & W. H. Starbuck (Eds.), ***The Oxford handbook of organizational decision making***: 552–564. New York: Oxford University Press.

Bowman, C. 1995. Strategy workshops and top-team commitment to strategic change. ***Journal of Managerial Psychology***, 10(8): 4.

Brinkerhoff, M. B. 1972. Hierarchical Status, Contingencies, and the Administrative Staff Conference. ***Administrative Science Quarterly***, 17(3): 395–407.

Bürgi, P. T., Jacobs, C. D., & Roos, J. 2005. From Metaphor to Practice: In the Crafting of Strategy. ***Journal of Management Inquiry***, 14(1): 78–94.

Chia, R., & Holt, R. 2006. Strategy as Practical Coping: A Heideggerian Perspective. ***Organization Studies***, 27(5): 635–655.

Christiansen, J. K., & Varnes, C. J. 2007. Making Decisions on Innovation Meetings or Networks? ***Creativity & Innovation Management***, 16(3): 282–298.

Clifton, J. 2009. Beyond Taxonomies of Influence: "Doing" Influence and Making Decisions in Management Team Meetings. ***Journal of Business Communication***, 46(1): 57–79.

Cooren, F. (Ed.) 2007. ***Interacting and Organizing: Analyses of a Management Meeting:*** Lawrence Erlbaum Associates.

Deppermann, A., Schmitt, R., & Mondada, L. 2010. Agenda and emergence: Contingent and planned activities in a meeting. ***Journal of Pragmatics***, 42(6): 1700–1718.
Doyle, M., & Straus, D. 1986. ***How to make meetings work: the new interaction method***. New York: Wyden Books.
Eisenhardt, K. M. 1989. Making Fast Strategic Decisions in High-velocity Environments. ***Academy of Management Journal***, 32(3): 543–576.
Frake, C. O. 1969. Struck by speech: The Yakan concept of litigation. In L. Nader (Ed.), ***Law in culture and society***. Chicago: Aldine.
Gabriel, Y. 2008. Against the Tyranny of PowerPoint: Technology-in-Use and Technology Abuse. ***Organization Studies***, 29(2): 255–276.
Gailbraith, J. R. 1973. ***Designing complex organizations***. Reading, MA: Addison-Wesley.
Gautam, K. 2005. Transforming Hospital Board Meetings Guidelines for Comprehensive Change. ***Hospital Topics***, 83(3): 25–31.
Gersick, C. J. G. 1988. Time and Transition in Work Teams: Toward a New Model of Group Development. ***Academy of Management Journal***, 31(1): 9–41.
Gersick, C. J. G., & Hackman, J. R. 1990. Habitual routines in task-performing groups. ***Organizational Behavior and Human Decision Processes***, 47(1): 65–97.
Giddens, A. 1984. ***The constitution of society***: ***Outline of the theory of structuration***. Berkeley: University of California Press.
Gittel, J. H. 2002. Coordinating Mechanisms in Care Provider Groups: Relational Coordination as a Mediator and Input Uncertainty as a Moderator of Performance Effects. ***Management Science***, 48(11): 1408–1426.
Goffman, E. 1959. ***The Presentation of Self in Everyday Life***. New York: Doubleday.
Goodin, R. E. 2008. ***Innovating democracy***: ***Democratic theory and practice after the deliberative turn***. Oxford, New York: Oxford University Press.
Grant, R. M. 2003. Strategic Planning in a Turbulent environment: Evidence from the Oil Majors. ***Strategic Management Journal***, 24(6): 491.
Hendry, J., & Seidl, D. 2003. The Structure and Significance of Strategic Episodes: Social Systems Theory and the Routine Practices of Strategic Change. ***Journal of Management Studies***, 40(1): 175–196.
Hodgkinson, G. P., Whittington, R., Johnson, G., & Schwarz, M. 2006. The Role of Strategy Workshops in Strategy Development Processes Formality, Communication, Co-ordination and Inclusion. ***Long Range Planning***, 39(5): 479–496.
Hodgkinson, G. P., & Wright, G. 2002. Confronting Strategic Inertia in a Top Management Team Learning from Failure. ***Organization Studies***, 23(6): 949–977.
Howe, J. 1986. ***The Kuna gathering***: ***Contemporary village politics in Panama***. Austin, Tex.: University of Texas Press.
Huisman, M. 2001. Decision-Making in Meetings as Talk-in-Interaction. ***International Studies of Management & Organization***, 31(3): 69–90.
Iedema, R. 1999. Formalizing Organizational Meaning. ***Discourse & Society***, 10(1): 49–65.
Ives, B., & Margrethe H.Olson 1981. Manager or Technician? The Nature of the Information Systems Manager's Job. ***MIS Quarterly***, 5(4): 49–63.
Jarzabkowski, P., & Balogun, J. 2009. The Practice and Process of Delivering Integration through Strategic Planning. ***Journal of Management Studies***, 46(8): 1255–1288.
Jarzabkowski, P., & Seidl, D. 2008. The Role of Meetings in the Social Practice of Strategy. ***Organization Studies***, 29(11): 1391–1426.
Johnson, G., Prashantham, S., & Floyd, S. W. 2006. ***Toward a Mid-Range Theory of Strategy Workshops***. Advanced Institute of Management Research Paper No. 035.
Johnson, G., Prashantham, S., Floyd, S. W., & Bourque, N. 2010. The Ritualization of Strategy Workshops. ***Organization Studies***, 31(12): 1589–1618.

Kangasharju, H. 1996. Aligning as a team in multiparty conversation. ***Journal of Pragmatics***, 26(3): 291–319.
Kangasharju, H. 2002. Alignment in disagreement: forming oppositional alliances in committee meetings. ***Journal of Pragmatics***, 34(10-11): 1447.
Kangasharju, H., & Nikko, T. 2009. Emotions in Organizations: Joint Laughter in Workplace Meetings. ***Journal of Business Communication***, 46(1): 100–119.
Kaplan, S. 2011. Strategy and PowerPoint: An Inquiry into the Epistemic Culture and Machinery of Strategy Making. ***Organization Science***, 22(2): 320–346.
Kärreman, D., & Alvesson, M. 2001. Making Newsmakers: Conversational Identity at Work. ***Organization Studies***, 22(1): 59–89.
Kurke, L. B., & Aldrich, H. E. 1983. Mintzberg was Right!: A Replication and Extension of the Nature of Managerial Work. ***Management Science***, 29(8): 975–984.
Latour, B. 2005. ***Reassembling the social***: ***An introduction to Actor-Network-Theory***. Oxford: Oxford Univ. Press.
Lehtinen, E., & Pälli, P. 2011. Conversational use of genres in managerial meetings. ***Scandinavian Journal of Management***, 27(3): 287–296.
Lewis, D. R., & Dahl, T. 1975. Time Management in Higher Education Administration: A Case Study.
Llewellyn, N. 2005. Audience Participation in Political Discourse: A Study of Public Meetings. ***Sociology***, 39(4): 697–716.
Luhmann, N. 1995. ***Social Systems***. Stanford, Calif: Stanford University Press.
MacIntosh, R., MacLean, D., & Seidl, D. 2010. Unpacking the effectivity paradox of strategy workshops: do strategy workshops produce strategic change? In D. Golsorkhi, L. Rouleau, D. Seidl & E. Vaara (Eds.), ***Cambridge Handbook of Strategy as Practice***. Cambridge: Cambridge University Press.
Mansbridge, J. J. 1983. ***Beyond adversary democracy***. London: Univ. of Chicago Press.
March, J. G., & Olsen, J. P. 1976. ***Ambiguity and Choice in Organizations*** (2nd ed.). Bergen: Universitetsforlaget.
Menz, F. 1999. 'Who am I gonna do this with?': self-organization, ambiguity and decision-making in a business enterprise. ***Discourse & Society***, 10(1): 101–128.
Mezias, J. M., Grinyer, P., & Guth, W. D. 2001. Changing Collective Cognition A Process Model for Strategic Change. ***Long Range Planning***, 34(1): 71–95.
Mintzberg, H. 1973. ***The nature of managerial work***. New York: Harper & Row.
Mintzberg, H., Raisinghani, D., & Theoret, A. 1976. The Structure of 'Unstructured' Decision Processes. ***Administrative Science Quarterly***(21): 246–275.
Mirivel, J. C., & Tracy, K. 2005. Premeeting Talk: An Organizationally Crucial Form of Talk. ***Research on Language and Social Interaction***(38 (1)): 1–34.
Monge, P. R., McSween, C., & Wyer, J. 1989. ***A profile of meetings in corporate America: Results of the 3M meeting effectiveness study***. Los Angeles: University of Southern California.
Myers, F. R. 1986. Reflections on a Meeting: Structure, Language, and the Polity in a Small-Scale Society. ***American Ethnologist***, 13(3): 430–447.
Nicolini, D. 2009. Zooming In and Out: Studying Practices by Switching Theoretical Lenses and Trailing Connections. ***Organization Studies***, 30(12): 1391–1418.
Nicolini, D. 2013. ***Practice Theory, Work and Organization. An Introduction.*** Oxford, England: Oxford University Press.
Nielsen, M. F. 2009. Interpretative Management in Business Meetings: Understanding Managers' Interactional Strategies through Conversation Analysis. ***Journal of Business Communication***, 46(1): 23–56.
Olsen, J. P. 1970. Local budgeting: decision-making or a ritual act? ***Scandinavian Political Studies***, 5(A5): 85–118.

Orlikowski, W. J., & Yates, J. 1994. Genre Repertoire: The Structuring of Communicative Practices in Organizations. ***Administrative Science Quarterly***, 39(4): 541–574.
Oswick, C. 2007. Closing words (and opening discussions?): An Afterword on Corporation: After Mr. Sam. In F. Cooren (Ed.), ***Interacting and Organizing: Analyses of a Management Meeting***: Lawrence Erlbaum Associates.
Oswick, C., Fleming, P., & Hanlon, G. 2011. From Borrowing to Blending: Rethinking the processes of organizational theory building. ***Academy of Management Review***, 36(2): 318–337.
Peck, E., Gulliver, P., & Towell, D. 2004. Why do we keep on meeting like this? The board as ritual in health and social care. ***Health Services Management Research***, 17(2): 100–109.
Raes, A. M. L., Glunk, U., Heijltjes, M. G., & Roe, R. A. 2007. Top Management Team and Middle Managers: Making Sense of Leadership. ***Small Group Research***, 38(3): 360–386.
Rasmussen, J. 2011. Enabling selves to conduct themselves safely: Safety committee discourse as governmentality in practice. ***Human Relations***, 64(3): 459–478.
Reckwitz, A. 2002. Toward a Theory of Social Practices: A Development in Culturalist Theorizing. ***European Journal of Social Theory***, 5(2): 243–263.
Robichaud, D., Giroux, H., & Taylor, J. R. 2004. The Metaconversation: the Recursive Property of Language as a Key to Organizing. ***Academy of Management Review***, 29(4): 617–634.
Rogelberg, S. G., Shanock, L. R., & Scott, C. W. 2011. Wasted Time and Money in Meetings: Increasing Return on Investment. ***Small Group Research***.
Sacks, H., Schegloff, E. A., & Jefferson, G. 1974. A Simplest Systematics for the Organization of Turn-Taking for Conversation. ***Language***, 50(4): 696–735.
Samra-Fredericks, D. 2003. Strategizing as Lived Experience and Strategists' Everyday Efforts to Shape Strategic Direction. ***Journal of Management Studies***, 40(1): 141–174.
Schatzki, T. R. 1996. ***Social practices***: ***A Wittgensteinian approach to human activity and the social***. Cambridge etc: Cambridge University Press.
Schatzki, T. R. 2005. Peripheral Vision: The Sites of Organizations. ***Organization Studies***, 26(3): 465–484.
Schatzki, T. R., Knorr-Cetina, K. D., & Savigny, E. von (Eds.) 2001. ***The practice turn in contemporary theory***. London: Routledge.
Scherer, A. G. 1998. Pluralism and Incommensurability in Strategic Management and Organization Theory: A Problem in Search of a Solution. ***Organization***, 5(2): 147–168.
Scherer, A. G., & Steinmann, H. 1999. Some Remarks on the Problem of Incommensurability in Organization Studies. ***Organization Studies***, 20(3): 519–544.
Schwartzman, H. B. 1989. ***The meeting***: ***Gatherings in organizations and communities***. New York: Plenum Press.
Schwarz, M. 2009. Strategy workshops facilitating and constraining strategy making. ***Journal of Strategy and Management***(2 (3)): 277–287.
Schwarz, M., & Balogun, J. 2007. ***Strategy workshops for strategic reviews: A case of semi-structured emergent dialogues***. Advanced Institute of Management Research Working Paper 054.
Scott, C. W., Shanock, L. R., & Rogelberg, S. G. 2012. Meetings at Work: Advancing the Theory and Practice of Meetings. ***Small Group Research***, 43(2): 127–129.
Seibold, D. R. 1979. Making meetings more successful: plans, formats and procedures for group problem-solving. ***Journal of Business Communication***, 16(4): 3–20.
Seidl, D., & Becker, K. (Eds.) 2005. ***Niklas Luhmann and Organization Studies***. Copenhagen and Malmö: Copenhagen Business School Press and Liber.
Seidl, D., MacIntosh, R., & MacLean, D. 2012. ***Rules of Suspension: a rules-based explanation of the role of strategy workshops in the strategy process***. Academy of Management Meeting, Boston, USA.

Seidl, D., & Whittington, R. 2014. Enlarging the Strategy-as-Practice Research Agenda: Towards Taller and Flatter Ontologies. ***Organization Studies***.
Spee, A. P., & Jarzabkowski, P. 2011. Strategic planning as communicative process. ***Organization Studies***, 32(9): 1217–1245.
Starker, S. 1978. Case conference and tribal ritual: Some cognitive, social and anthropologic aspects of the case conference. ***Journal of Personality and Social Systems***(1): 3–14.
Stephens, K. K. 2012. Multiple Conversations During Organizational Meetings: Development of the Multicommunicating Scale. ***Management Communication Quarterly***.
Stephens, K. K., & Davis, J. 2009. The Social Influences on Electronic Multitasking in Organizational Meetings. ***Management Communication Quarterly***, 23(1): 63–83.
Stevenson, W. B., & Radin, R. F. 2009. Social Capital and Social Influence on the Board of Directors. ***Journal of Management Studies***, 46(1): 16–44.
Suddaby, R. 2006. From the editors: What grounded theory is not. ***Academy of Management Journal***, 49(4): 633–642.
Svennevig, J. 2012. Interaction in workplace meetings. ***Discourse Studies***, 14(1): 3–10.
Taylor, J. R., & Robichaud, D. 2004. Finding the Organization in the Communication: Discourse as Action and Sensemaking. ***Organization***, 11(3): 395–413.
Taylor, J. R., & Robichaud, D. 2007. Management as Metaconversation: The search for closure. In F. Cooren (Ed.), ***Interacting and Organizing: Analyses of a Management Meeting***: Lawrence Erlbaum Associates.
Tengblad, S. 2006. Is there a 'New Managerial Work'? A Comparison with Henry Mintzberg's Classic Study 30 Years Later. ***Journal of Management Studies***, 43(7): 1437–1461.
Tepper, S. J. 2004. Setting Agendas and Designing Alternatives Policymaking and the Strategic Role of Meetings. ***Review of Policy Research***, 21(4): 523–542.
Terry, L. D. 1987. The conference as an administrative strategy for building organizational commitment. The CWA experience. ***Labour Studies Journal***(26): 48–61.
Tobia, P. M., & Becker, M. C. 1990. Making the Most of Meeting Time. ***Training & Development Journal***, 44(8): 34.
Tracy, K. 2007. Feeling-limned talk: Conduct ideals in the Steinberg Succession Meeting. In F. Cooren (Ed.), ***Interacting and Organizing: Analyses of a Management Meeting***: Lawrence Erlbaum Associates.
Tuggle, C. S., Schnatterly, K., & Johnson, R. A. 2010. Attention Patterns in the Boardroom: How Board Composition and Processes affect Discussion of Entrepreneurial Issues. ***Academy of Management Journal***, 53(3): 550–571.
Tushman, M. L., & Nadler, D. A. 1978. Information Processing as an Integrating Concept in Organizational Design. ***Academy of Management Review***, 3(3): 613–624.
van Praet, E. 2009. Staging a Team Performance: A Linguistic Ethnographic Analysis of Weekly Meetings at a British Embassy. ***Journal of Business Communication***, 46(1): 80–99.
van Vree, W. 1999. ***Meetings, Manners and Civilization: The Development of Modern Meeting Behaviour***. London: Leicester University Press.
Volkema, R. J., & Niederman, F. 1996. Planning and Managing Organizational Meetings An Empirical Analysis of Written and Oral Communications. ***Journal of Business Communication***, 33(3): 275–296.
Weick, K. E. 1995. ***Sensemaking in organizations***. London: Sage.
Whittington, R., Molloy, E., Mayer, M., & Smith, A. 2006. Practices of Strategising/Organising: Broadening Strategy Work and Skills. ***Long Range Planning***, 39(6): 615–629.

Yates, J., & Orlikowski, W. J. 1992. Genres of Organizational Communication: A Structurational Approach to Studying Communication and Media. ***Academy of Management Review***, 17(2): 299–326.

AUTOBIOGRAPHICAL NOTE

Katharina Dittrich
1 December 1983, born in Bad Salzungen (Germany)

Research
Katharina Dittrich is a PhD student in organization theory and works as a research assistant at the Chair of Organization & Management (Prof. David Seidl, PhD) at the Department of Business Administration, University of Zurich. In 2012 she has been a Visiting Scholar at the Saïd Business School at the University of Oxford in England. In her dissertation Katharina Dittrich examines how particular organizational practices—that is, organizational routines and meetings—are accomplished and changed. Other research interests include strategy as practice and qualitative research methods, in particular ethnography.

Work Experience and Education
Katharina Dittrich earned a Diploma in Business Administration from the WHU – Otto Beisheim School of Management, Germany and a MBA from the McCombs School of Business, University of Texas at Austin, USA. In addition, she has been a visiting student at the Sciences Po in Paris, France. Prior to starting her PhD studies, Katharina Dittrich has worked three years as a strategy consultant for Booz & Company in Zurich, Switzerland. Furthermore, she has gained practical experience in the field of telecommunications, pharmaceuticals, microfinance and development aid.